DEPENDABLE PRODUCTIVITY

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



NSP10N2 NSP12PC **NSP12N2** NSP12N2R **NSP12N2I** NSP12N2IR **NSP14N2** NSP14N2R NSP14N2I NSP14N2IR **NSP16N2 NSP16N2R NSP16N2I** NSP16N2IR **NSP16N2S** NSP16N2SR

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 1.2*, 1.4 and 1.6 tonne capacities to take the legwork out of longer distances.



A new compact pedestrian stacker, the 1.2 tonne NSP12PC, 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.
- Ergonomic tiller arm helps keep operators fresh with comfortable, easy-to-use controls.
- Excellent drive and traction characteristics suit intensive work over short and medium distances.
- 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 NSP12PC model is the narrowest and lightest stacker (at 660 mm and 775 kg including maximum battery) and like the NSP10-16N2/N2I/N2S models, it has an offset tiller arm so the operator can walk alongside.
- N2R models feature fold-down driver platform that prevents operator fatigue over longer distances.
- N2R models' folding platform stays down when lowered, saving time when operators go to remount.
- N2I initial lift models let operator raise mast and forks, increasing ground clearance to protect truck and load when working on ramps.
- N2S 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.
- 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*.
- Large lift and lower levers allow easy, one-handed control, even with gloves.

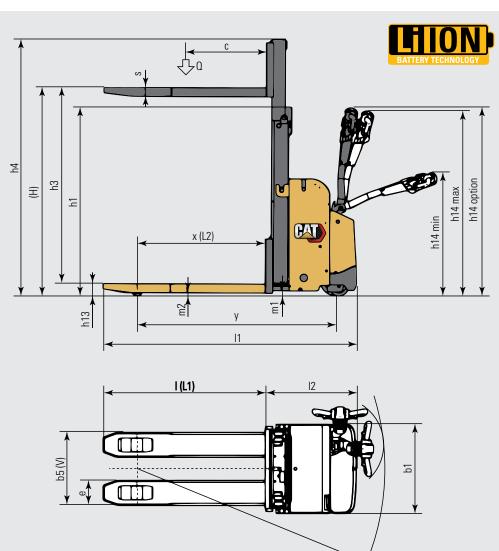
*Excluding the NSP12PC.



STANDARD EQUIPMENT AND OPTIONS

	NSP10N2	NSP12PC	NSP12N2(I)	NSP14N2(I)	NSP16N2(I)	NSP12N2(I)R	NSP14N2(I)R	NSP16N2(I)R	NSP16N2S	NSP16N2SR
GENERAL										
LED discharge indicator, no hour meter	•	-	•	•	•		•			
Multifunctional display, including hour meter	0	-	0	0	0	0	0	0	0	0
Micro-computer incl. hour meter and battery indicator with cutout (ATC T4)	-	•	-	-	-	-	-	-	-	-
PIN code login 100 codes	-	•	_	-	-	-	-	-	-	-
PIN code login 4 codes	0	-	0	0	0	0	0	0	0	0
Offset tiller arm with display and keypad	_	•	-	-	-	-	-	_	-	-
Chill store design, down to 1°C, with rust-protected axles	-	•	-	-	-	-	-	-	-	-
Proportional valve for lifting and lowering, controlled by fingertip lever on tiller head	•	-	•	•	•	•	•	•	•	•
Electric on/off valve for lifting and 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	_	-	-	-	-	-	-	-
ENVIRONMENT										
Cold store design, 0C° to -35C°	0	0	0	0	0	0	0	0	0	0
DRIVE AND LIFT CONTROLS										
Heavy duty tiller head - with key switch entry	-	0	-	-	-	-	-	-	-	-
Tiller in line with chassis contour	-	0	-	-	-	-	-	-	-	-
Tiller up drive	0	0	0	0	0	0	0	0	0	0
WHEEL OPTIONS										
Polyurethane traction and load wheels	•	•	•	•	•	•	•	•	•	•
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
Inbuilt charger, 30A	0	-	0	0	0	0	0	0	0	0
Rubber foot protection	-	-	-	-	-	-	-	-	-	-
Diselectric band	-	0	-	-	-	-	-	-	-	-
Key switch	•	0	•	•	•	•	•	•	•	•
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

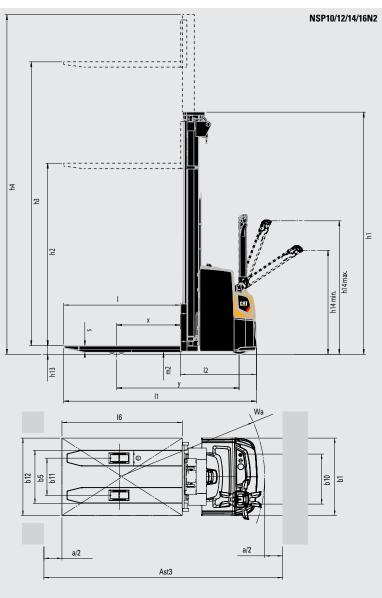
1.0	Characteristics			
1.1	Manufacturer			Cat Lift Trucks
.2	Manufacturer's model designation			NSP12PC
.3	Power source			Battery
.4	Operator type			Pedestrian
.5	Load capacity	Q	(kg)	1250
.6	Load centre distance	С	(mm)	600
.8	Load wheel axle to fork face (forks lowered)	х	(mm)	950
.9	Wheelbase	у	(mm)	1473
2.0	Weight			
2.1	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
8.0	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
3.7	Track width (centre of tyres), load side	b11	(mm)	355
.0	Dimensions			
1.2b	Height	h1	(mm)	1400 / 1550
1.3	Free lift	h2	(mm)	
1.4	Lift height	h3	(mm)	1700 / 2000
.5	Height with mast extended	h4	(mm)	2145 / 2445
l.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
.19	Overall length	11	(mm)	1877
1.20	Length to fork face	12	(mm)	677
1.20	Overall width	b1/b2	(mm)	660
.22	Fork dimensions (thickness, width, length)	s/e/l	(mm)	65 / 185 / 120
1.24	Fork carriage width	b3	(mm)	0371037120
1.25	Outside width over forks (minimum / maximum)	b5	(mm)	540
1.26	Inner width of support legs	b3	(mm)	340
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)	2.5
1.33d	Working alse width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	
1.34a	Working alse width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	(mm)	2507
1.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast3	(mm)	2285
1.34D		Ast	(mm)	2200
	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	
1.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down			4005
1.35	Turning radius	Wa	(mm)	1835
.0	Performance		km / h	57/0
i.1	Travel speed, with / without load			5.7/6
i.2	Lifting speed, with / without load		m/s	0.10 / 0.20
.3	Lowering speed, with / without load		m/s	0.11 / 0.12
.7	Gradeability, with / without load		%	7 / 19
i.8	Maximum gradeability with / without load		%	2.62.123
.9	Acceleration time (10 metres) with / without load		S	7.60 / 6.76
i.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric
.0	Electric motors			
.1	Drive motor capacity (60 min. short duty)		kW	1.3
.2	Lift motor output at 15% duty factor		kW	2.35
.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
1.0	Miscellaneous			
1.1	Type of drive control			Stepless
0.7	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
0.7.1	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)	
0.7.2	Whole-body vibration (EN 13 059:2002)			
	Hand-arm vibration (EN 13 059:2002)			



			/
A	st	=	Working aisle width
A	st3	=	Working aisle width (b12 <1000mm)
A	st	=	Wa + $\sqrt{(16 - x)^2 + (b12/2)^2}$ + a
A	st3	=	Wa + I6 -x + a
V	Va	=	Turning radius
16	6	=	Pallet length (800 or 1000mm)
х		=	Load wheel axle to fork face
h	10		Dollat width (1200 mm)

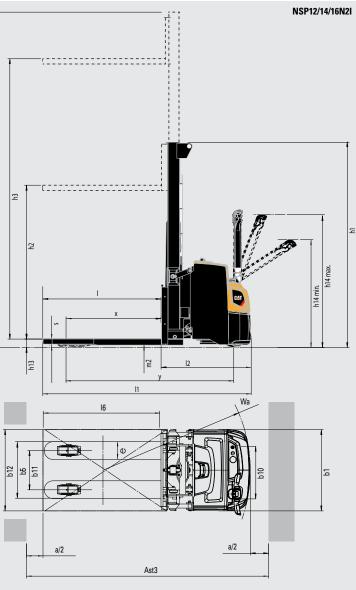
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

1.0	Characteristics						
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP10N2	NSP12N2	NSP14N2	NSP16N2
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)	625	625	625	625
1.9	Wheelbase	у	(mm)	1141	1205	1205	1205
2.0	Weight						
2.1	Truck weight without load, with maximum battery weight		kg	820	1205	1220	1225
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	740 / 1080	830 / 1575	835 / 1785	835 / 1990
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	605 / 215	820 / 385	825 / 395	825 / 400
3.0	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)	1.10	()	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)	517	517	517	517
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	385	385
4.0	Dimensions	h1	(mm)				
4.2b	Height	h2	(mm)	see tables	see tables	see tables	see tables
4.3	Free lift	h3	(mm) (mm)	see tables	see tables	see tables	see tables
4.4	Lift height	h4	(mm) (mm)	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h5	(mm)	see tables	see tables	see tables	see tables
4.6 4.9	Initial lift Height of tiller arm / steering console (min/max)	h14	(mm)	- 1050 / 1372	- 1050 / 1372	1050 / 1372	- 1050 / 1372
4.9	Fork height, fully lowered	h13	(mm)	90	90	90	90
4.15	Overall length	11	(mm)	1836	1900	1900	1900
4.13	Length to fork face	12	(mm)	686	750	750	750
4.20	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)	752	752	752	752
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)	2291	2355	2355	2355
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	1958	2022	2022	2022
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)	2283	2347	2347	2347
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	2158	2222	2222	2222
4.35	Turning radius	Wa	(mm)	1383	1447	1447	1447
5.0	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	0.12 / 0.26	0.12 / 0.26	0.12 / 0.26	0.14 / 0.27
5.3	Lowering speed, with / without load		m/s	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40
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
6.0	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 / 150-250	24 / 250	24 / 250 - 375
6.5	Battery weight		kg	151	151 - 212	212	212 - 294
8.0	Miscellaneous			01.1	01	01	01.1
8.1	Type of drive control		ID (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)				
10.7.1	and a second		dB (A)	60 / 60 / 41	60 / 60 / 41	60 / 60 / 41	70 / 72 / 41
	Whole-body vibration (EN 13 059:2002)			-	-	-	-
	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

1.0	Characteristics					
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP12N2I	NSP14N2I	NSP16N2I
1.3	Power source			Battery	Battery	Battery
1.4	Operator type			Pedestrian	Pedestrian	Pedestrian
1.5	Load capacity	0	(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)	1615	1615	1615
2.0	Weight	,	()	1010	1010	1010
2.1	Truck weight without load, with maximum battery weight		kg	1350	1395	1400
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	1180 / 1370	1240 / 1555	1275 / 1725
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	955 / 395	970 / 425	970 / 430
3.0	Wheels, Drive Train			3037 000	3707 420	3707 400
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	$1 + 1 \times 4$	$1 + 1 \times 4$
3.6	Track width (centre of tyres), drive side	b10	(mm)	517	517	517
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	385
4.0	Dimensions	511	()	303	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
4.4	Height with mast extended	h4	(mm)	see tables	see tables	see tables
4.5	Initial lift	h5	(mm)	115	115	115
4.0	Height of tiller arm / steering console (min/max)	h14	(mm)	1050 / 1372	1050 / 1372	1050 / 1372
	5	h13	(mm)	90	90	90
4.15	Fork height, fully lowered	11	(mm)	2007	2007	2007
4.19	Overall length	12	(mm)	857	857	857
4.20 4.21	Length to fork face	b1/b2	(mm)	800	800	800
	Overall width	s/e/l	(mm)			
4.22	Fork dimensions (thickness, width, length)	b3		56 / 186 / 1150	56 / 186 / 1150	56 / 186 / 1150
4.24	Fork carriage width		(mm)	752	752	752
4.25	Outside width over forks (minimum / maximum)	b5 b4	(mm)	570	570	570
4.26	Inner width of support legs	m2	(mm)	-	-	-
4.32	Ground clearance at centre of wheelbase, (forks lowered)		(mm)	20	20	20
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast Ast2	(mm)	2653	2653	2653
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2123	2123	2123
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)	0500	0500	0500
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast Ast2	(mm)	2533	2533	2533
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	2323	2323	2323
4.35	Turning radius	Wa	(mm)	1848	1848	1848
5.0	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	0.12 / 0.26	0.12 / 0.26	0.14 / 0.27
5.3	Lowering speed, with / without load		m/s	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40
5.7	Gradeability, with / without load		%	0./45	0.445	0.445
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
6.0	Electric motors		1147		4 -	
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					
_			V/Ah	24 / 150-250	24 / 250	24 / 250 - 375
6.4	Battery voltage/capacity at 5-hour discharge		_			
6.4 6.5	Battery weight		kg	151 - 212	212	212 - 294
6.4 6.5 8.0	Battery weight Miscellaneous		_		212	
6.4 6.5 <mark>8.0</mark> 8.1	Battery weight Miscellaneous Type of drive control		kg	151 - 212 Stepless		212 - 294 Stepless
6.4 6.5 8.0 8.1 10.7	Battery weight Miscellaneous Type of drive control Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		kg dB (A)	Stepless	212 Stepless	Stepless
6.4 6.5 8.0 8.1 10.7 10.7.1	Battery weight Miscellaneous Type of drive control Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/litf/idle LpAZ		kg		212	
6.4 6.5 8.0 8.1 10.7 10.7.1 10.7.2	Battery weight Miscellaneous Type of drive control Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		kg dB (A)	Stepless	212 Stepless	Stepless

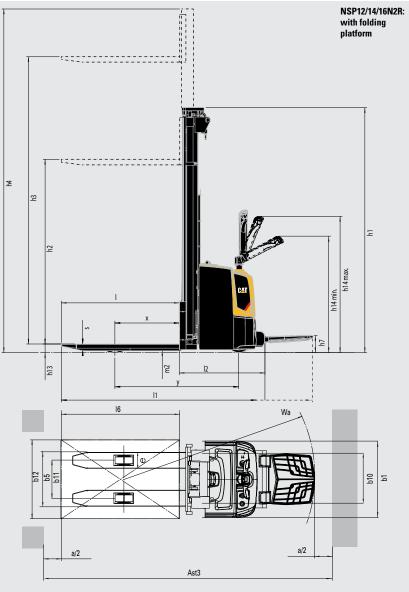


- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa + $\sqrt{(16 x)^2 + (b12/2)^2}$ + a
- Ast3 = Wa + I6 x + a

4

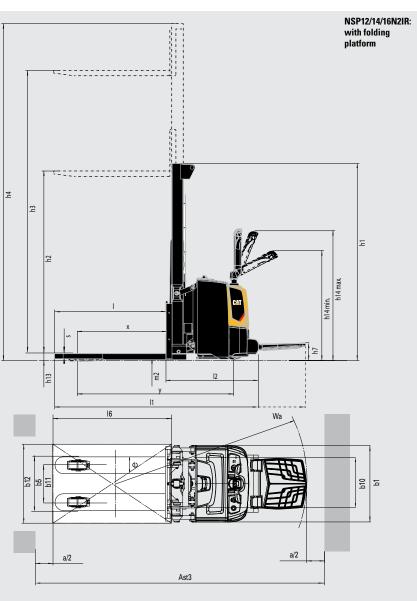
- Wa = Turning radius
- I6 = Pallet length (800 or 1000mm)
- x = Load wheel axle to fork face
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

1.0	Characteristics					
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP12N2R	NSP14N2R	NSP16N2R
1.3	Power source			Battery	Battery	Battery
1.4	Operator type			Pedestrian / Stand-on	Pedestrian / Stand-on	Pedestrian / Stand-on
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)	625	625	625
1.9	Wheelbase	у	(mm)	1205	1205	1205
2.0	Weight					
2.1	Truck weight without load, with maximum battery weight		kg	1245	1260	1265
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	870 / 1575	875 / 1785	875 / 1990
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	860 / 385	865 / 395	865 / 400
3.0	Wheels, Drive Train			N L OV L	1/1/1/1	N 1 (N 1
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side		(mm)	Vul / Vul	Vul / Vul	Vul / Vul
3.2 3.3	Tyre dimensions, drive side Tyre dimensions, load side		(mm)	230 x 70 85 x 90	230 x 70 85 x 75	230 x 70 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)		(mini)	1+1 x/2	$1 \pm 3 \times 60$	$1 \pm 3 \times 60^{-1}$
3.6	Track width (centre of tyres), drive side	b10	(mm)	517	517	517
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	385
4.0	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)		-	-
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	1150 / 1350	1150 / 1350	1150 / 1350
4.15	Fork height, fully lowered	h13	(mm)	90	90	90
4.19	Overall length	11	(mm)	2020 / 2500	2020 / 2500	2020 / 2500
4.20	Length to fork face	12	(mm)	870 / 1350	870 / 1350	870 / 1350
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 b5	(mm)	752	752	752
4.25	Outside width over forks (minimum / maximum) Inner width of support legs	b5	(mm) (mm)	570	570	570
4.26 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)	2475 / 2955	2475 / 2955	2475 / 2955
4.33d	Working alse width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2142 / 2622	2142 / 2622	2142 / 2622
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	(mm)	2142 / 2022	LINE / LOLL	LINE / LOLL
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)	2467 / 2947	2467 / 2947	2467 / 2947
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	2342 / 2822	2342 / 2822	2342 / 2822
4.35	Turning radius	Wa	(mm)	1567 / 2047	1567 / 2047	1567 / 2047
5.0	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	0.12 / 0.26	0.12 / 0.26	0.14 / 0.27
5.3	Lowering speed, with / without load		m/s	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40
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	1	F (F 1 1
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric	Electric	Electric
6.0	Electric motors		134/	1.0	4.0	1.0
6.1	Drive motor capacity (60 min. short duty)		kW kW	1.0	1.0	1.0
6.2 6.3	Lift motor output at 15% duty factor Battery to DIN		KVV	2.2	2.2	3.2
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 150 - 250	24 / 250	24 / 250 - 375
6.5	Battery weight		kg	151 - 212	24 / 250	247 250 - 375 212 - 294
8.0	Miscellaneous		лу	101-212	212	212-204
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)	P		
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)	60 / 60 / 41	60 / 60 / 41	70 / 72 / 41
	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



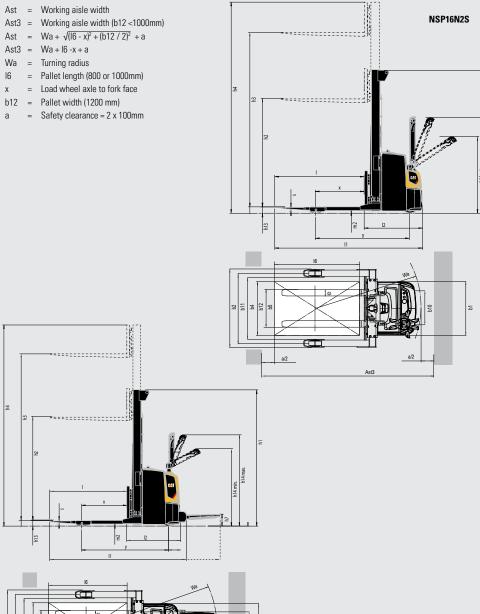
- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa + $\sqrt{(16 x)^2 + (b12/2)^2}$ + a
- Ast3 = Wa + I6 x + a
- Wa = Turning radius
- I6 = Pallet length (800 or 1000mm)
- x = Load wheel axle to fork face
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

1.0	Characteristics					
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP12N2IR	NSP14N2IR	NSP16N2IR
1.3	Power source			Battery	Battery	Battery
1.4	Operator type				Pedestrian / Stand-on	Pedestrian / Stand-or
1.5	Load capacity	Q	(kg)	1200	1400	1600
1.6	Load centre distance	c	(mm)	600	600	600
1.0	Load wheel axle to fork face (forks lowered)	x	(mm)	925	925	925
1.9	Wheelbase	y	(mm)	1615	1615	1615
2.0	Wight	y	(11111)	1013	1015	1010
2.0	Truck weight without load, with maximum battery weight		kg	1390	1435	1440
_					1280 / 1555	
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg kg	1220 / 1370		1315 / 1725
2.3 3.0	Axle loadings without load & with maximum battery weight, drive / load side		ĸу	995 / 395	1010 / 425	1010 / 430
3.0	Wheels, Drive Train			Vul / Vul	Vul / Vul	Vul / Vul
	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side Tyre dimensions, drive side		(mm)			
3.2			(mm)	230 x 70	230 x 70	230 x 70
3.3	Tyre dimensions, load side			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)	b10	(1+1x/2	1 + 1 x / 4	1 + 1 x / 4
3.6	Track width (centre of tyres), drive side	b10 b11	(mm)	517	517	517
3.7	Track width (centre of tyres), load side	UII	(mm)	385	385	385
4.0	Dimensions	L1	(
4.2b	Height	h1 h2	(mm)	see tables	see tables	see tables
4.3	Free lift		(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)	115	115	115
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	1150 / 1350	1150 / 1350	1150 / 1350
4.15	Fork height, fully lowered	h13	(mm)	90	90	90
4.19	Overall length	1	(mm)	2127 / 2607	2127 / 2607	2127 / 2607
4.20	Length to fork face	12	(mm)	977 / 1457	977 / 1457	977 / 1457
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)	752	752	752
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)	2773 / 3253	2773 / 3253	2773 / 3253
4.33d	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2243 / 2723	2243 / 2723	2243 / 2723
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)	2653 / 3133	2653 / 3133	2653 / 3133
4.34d	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast3	(mm)	2443 / 2923	2443 / 2923	2443 / 2923
4.35	Turning radius	Wa	(mm)	1968 / 2448	1968 / 2448	1968 / 2448
5.0	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	0.12 / 0.26	0.12 / 0.26	0.14 / 0.27
5.3	Lowering speed, with / without load		m/s	0.35 / 0.40	0.35 / 0.40	0.35 / 0.40
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
6.0	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	151 - 212	212	212 - 294
8.0	Miscellaneous		5			
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)	P		
10.7.1	Level of noise 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)	60 / 60 / 41	60 / 60 / 41	70 / 72 / 41
	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

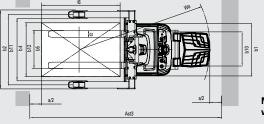


- Ast = Working aisle width
- Ast3 = Working aisle width (b12 <1000mm)
- Ast = Wa + $\sqrt{(16 x)^2 + (b12/2)^2}$ + a
- Ast3 = Wa + I6 -x + a
- Wa = Turning radius
- I6 = Pallet length (800 or 1000mm)
- x = Load wheel axle to fork face
- b12 = Pallet width (1200 mm)
- a = Safety clearance = 2 x 100mm

1.0	Characteristics				
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks
1.2	Manufacturer's model designation			NSP16N2S	NSP16N2SR
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	С	(mm)	600	600
1.8	Load wheel axle to fork face (forks lowered)	х	(mm)	650	650
1.9	Wheelbase	у	(mm)	1295	1295
2.0	Weight	,		1200	1200
2.1	Truck weight without load, with maximum battery weight		kg	1397	1437
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	1941 / 1056	1981 / 1056
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	945 / 452	985 / 452
3.0	Wheels, Drive Train		Ű		
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side		(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)		(mm)	125 x 60	125 x 60
3.5	Number of wheels, load / drive side (x = driven)			$1 + 1 \times 4$	1 + 1 x / 4
3.6	Track width (centre of tyres), drive side	b10	(mm)	517	517
3.7	Track width (centre of tyres), load side	b11	(mm)	1025-1425	1025-1425
4.0	Dimensions			1020 1120	1020 1120
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)	366 (00)63	-
4.9	Height of tiller arm / steering console (min/max)	h14	(mm)	1050 / 1372	1150 / 1350
4.15	Fork height, fully lowered	h13	(mm)	85	85
4.19	Overall length	11	(mm)	1967	2087 / 2567
4.20	Lenoth to fork face	12	(mm)	817	937 / 1417
4.20	Overall width	b1/b2	(mm)	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
4.24	Outside width over forks (minimum / maximum)	b5	(mm)	260-900	260-900
4.26	Inner width of support legs	b4	(mm)	1015-1450	1015-1450
4.20	Ground clearance at centre of wheelbase, (forks lowered)	m2	(mm)	20	20
4.32 4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	(mm)	2430	2550 / 3030
4.33d	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast3	(mm)	2430	2205 / 2685
4.33u	Working aisle width (Asta) with 1000 X 1200 mm pallets, load crosswise, prational up/down	Ast	(mm)	2005	22037 2003
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, platform up/down	Ast	(mm)	2415	2535 / 3015
4.34d		Ast3	(mm)	22413	2405 / 2885
4.34u 4.35	Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Wa	(mm)	1535	
4.30 5.0	Turning radius Performance	vva	(11111)	1000	1655 / 2135
			km / h	60/60	60/60
5.1 5.2	Travel speed, with / without load		m/s	6.0 / 6.0	6.0 / 6.0
5.2 5.3	Lifting speed, with / without load		m/s		0.14 / 0.27
	Lowering speed, with / without load		m7s %	0.35 / 0.40	0.35 / 0.40
5.7	Gradeability, with / without load		%	0./15	0 / 15
5.8	Maximum gradeability with / without load			8 / 15	8 / 15
5.9	Acceleration time (10 metres) with / without load		S	Electric	Floateir
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric	Electric
6.0	Electric motors		LAA/	10	10
6.1	Drive motor capacity (60 min. short duty)		kW	1.0	1.0
6.2	Lift motor output at 15% duty factor		kW	3.2	3.2
6.3	Battery to DIN		1// 44	04 (050,035	04 (050, 075
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah	24 / 250 - 375	24 / 250 - 375
6.5	Battery weight		kg	212 - 294	212 - 294
8.0	Miscellaneous			Charless	Charless
8.1	Type of drive control		-ID (A)	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)	70 / 70 / 11	70 / 70 / 11
10.7.1			dB (A)	70 / 72 / 41	70 / 72 / 41
	Whole-body vibration (EN 13 059:2002)			-	0.8
	Hand-arm vibration (EN 13 059:2002)			< 2.5	< 2.5



h14 max



NSP16N2SR: with folding platform

NSP12PC								
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

NSP10N2									
Vlast Type	h3+h13	h1*	h4	h2+h13					
	mm	mm	mm	mm					
Simplex	1500	1980	1980	1500					
Duplex	2500	1775	3000	195					
	2900	1975	3400	195					
	3300	2175	3800	195					

NS	P12/14/16N2	/ NSP12/14	/16N2R	
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
Simplex	1500	1950	1950	1500
	2500	1835	3000	200
	2900	2035	3400	200
	3300	2235	3800	200
	3600	2385	4100	200
	4300	2735	4800	200
Duplex	2500	1775	2940	1355
Free Lift	2900	1975	3340	1555
	3300	2235	3800	1755
	3600	2385	4100	1905
	4300	2735	4800	2255
Triplex	4100	1955	4640	
	4300	2020	4840	
	4700	2153	5250	
	5400*	2385	5940	
Triplex	4100	1955	4640	1475
Free Lift	4300	2020	4840	1540
	4700	2153	5250	1673
	5400*	2385	5940	1905

1	NSP12/14/16N2	/ NSP12/14	/16 N2IR	
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
Simplex	1500	2055	2055	1505
	2500	1940	3105	200
	2900	2140	3505	200
	3300	2340	3905	200
	3600	2490	4205	200
	4300	2840	4905	200
Duplex	2500	1940	3105	1360
Free Lift	2900	2140	3505	1560
	3300	2340	3905	1760
	3600	2490	4205	1910
	4300	2840	4905	2260
Triplex	4100	2060	4745	
	4300	2125	4945	
	4700	2260	5345	
	5400*	2490	6045	
Triplex	4100	2060	4745	1480
Free Lift	4300	2125	4945	1545
	4700	2260	5345	1673
	5400*	2490	6045	1910

	NSP16N2S	/ NSP16N2	SR	
Mast Type	h3+h13	h1*	h4	h2+h13
	mm	mm	mm	mm
Simplex	1500	2030	2030	1500
	2500	1915	3080	195
	2900	2115	3480	195
	3300	2315	3880	195
	3600	2465	4180	195
	4300	2815	4880	195
Duplex Free Lift	2500	1915	3080	1355
	2900	2115	3480	1555
	3300	2315	3880	1755
	3600	2465	4180	1905
	4300	2815	4880	2255
Triplex	4100	2035	4720	
	4300	2100	4920	
	4700	2233	5320	
	5400*	2465	6020	
Triplex Free Lift	4100	2035	4720	1475
	4300	2100	4920	1540
	4700	2233	5320	1753
	5400*	2465	6020	1905

Mast Performance and Capacity

- = only NSP14-16N2R & NSP14-16N2(I)R
- = Simplex

*

S

- 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

CONSIDER THE BENEFITS OF LI-ION BATTERY TECHNOLOGY ON THE NSP12PC MODEL



Like all components on Cat[®] lift trucks, batteries are carefully chosen and specified for optimum compatibility with each individual truck and its application requirements. As a leader in forklift development, we are ready to adopt new component technologies as soon as they become genuinely cost-effective.

At present, the needs of most lift trucks are still met optimally by lead-acid batteries, but in some cases lithium-ion (Li-ion) batteries now offer a realistic alternative. This is especially true in high-energy, multi-shift, 24/7 operations.

In view of the improved performance and affordability of today's Li-ion batteries, we have introduced them as an option. They will be offered on particular trucks, whenever they make economic and practical sense for you and your business.









NO MAINTENANCE



INBUILT PROTECTION

Will Li-ion work for you?

Li-ion batteries offer tremendous advantages over traditional lead-acid batteries. The big question is whether those benefits are sufficient — in your situation — to justify the large difference in purchase price. To answer this, you must consider their total cost of ownership (TCO). The key factors are summarised below.

Li-ion cost savings compared to lead-acid

These include 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 around 30% lower, so electricity consumption is reduced
- Longer runtime thanks to higher energy capacity, lower losses and more efficient recovery of current from regenerative braking
- Consistently high performance with a more constant voltage curve maintains greater truck productivity, even toward the end of a shift
- Faster charging and opportunity charging full charge within 1 to 2 hours enables top-ups during short breaks, without damaging the battery or shortening its lifespan
- No battery changing fast opportunity charges enable continuous operation with just one battery and minimise the need to buy, store and maintain spares
- No maintenance the battery stays on board the truck for charging and there is no need for top-ups or electrolyte checks
- No gas 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 application errors

LI-ION BATTERIES

CONSIDER THE BENEFITS OF LI-ION BATTERY TECHNOLOGY ON THE NSP12PC MODEL



Li-ion extra costs compared to lead-acid

Li-ion battery purchase prices are higher – although they are coming down as production volumes increase. You may also need to invest in extra charging points and electrical infrastructure to support them.

Further advantages of Li-ion compared to lead-acid

Money should not be your only consideration. Li-ion batteries also have important safety and environmental benefits.

- Greater safety no explosive gas, acid spills or regular battery lifting
- Smaller carbon footprint better efficiency means less energy consumption, while longer life lowers the requirement for manufacture of additional batteries

Cat lift trucks with Li-ion

The necessary LIBAT option can be built into new trucks or retrofitted to your existing fleet using a fast and easy conversion kit. LIBAT ensures perfect integration of the Li-ion battery and lift truck. Along with the necessary cabling and connections, it includes a battery lock.

For extra peace of mind, Li-ion batteries come with the option of a service contract, full warranty and feedback on battery status. Data collected by the battery's inbuilt battery management system (BMS) is uploaded and analysed to help the dealer advise you on its condition and usage. The report may, for example, indicate a need for changes in your practices to improve efficiency and battery life.

Batteries and chargers with different capacities are available. Your dealer will identify the best combination for your needs.

NSP12PC LI-ION BATTERY AND CHARGER	
Battery capacity, Ah	104
Charger capacity, A, 4 hour*	25

*Built-in charger only for Li- Ion 104Ah battery.



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improvement. For this reason, some materials, options and specifications could change without notice.

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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









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