



NR14N2L

NR16N2L

# REACHABLE BENEFITS

**SPECIFICATIONS**

**LIGHT REACH TRUCKS 48V, 1.4 - 1.6 TONNES**



# MOVE UP TO A REACH TRUCK

BRINGING REACH TRUCKS TO A WIDER RANGE OF BUSINESSES, THESE ENTRY-LEVEL MODELS ARE FOR LIGHT AND MEDIUM DUTIES AT HEIGHTS UP TO 7.5 METRES. THEY SHARE THE QUALITY, ERGONOMICS AND SENSITIVELY CONTROLLED PERFORMANCE OF THE WIDER CAT® REACH TRUCK FAMILY.



Performance is both powerful and refined, thanks to a strong gearbox, rigid truck and mast construction, reliable hydraulics, Responsive Drive System (RDS), advanced controller technology and passive sway control. The result is high lifting and residual capacities, with smooth, precise load handling and driving.



Advanced fingertip hydraulic controls are embedded into an ergonomic, adjustable armrest. Steering wheel height and angle can be adjusted, and the driver can steer from a variety of hand positions. A multifunctional display with brightly coloured readouts provides useful information.



The spacious cabin is furnished with a high-comfort Grammer seat, lined walls and a variety of convenient storage features. From here, the driver enjoys clear all-round and upward views while being protected by the overhead guard and other truck structures.



Drive speed is automatically and smoothly controlled during turns, or when the forks are raised, to prevent unsafe behaviour. Other safeguards include stepless slowdown of steering response with increasing travel speed, to keep manoeuvring safely under control.

## LOWER COST OF OWNERSHIP

- Features a mast solution that is well suited to lighter applications.
- Robust construction minimises damage and wear.
- Easy service access features include tilting and detachable seat, durable plastic machinery cover and tilting battery cover, for reduced downtime.
- High-spec display unit encourages correct maintenance, with functions including condition monitoring, fault alarms, diagnostics and servicing interval calculation.
- Removable buffer enables simple and quick drive wheel change, with no need to remove other components.
- Load wheels are positioned outside chassis to simplify service access, with a front cover for defence against collision with racking.
- Wear rails above support legs are easily exchanged to extend truck life.
- Oil tank return and suction filters reduce pump motor's maintenance needs.

## UNMATCHED PRODUCTIVITY

- Passive sway control system keeps automatic parking brake open, so sway energy is absorbed by the whole truck's mass, while strong mast design and low-friction sideshift reduce swaying, twisting and noise.
- Responsive Drive System (RDS) and new-generation controller technology provide sensitive control for driving and mast operations, to make work faster, safer and more comfortable.
- High-strength gearbox boosts loading capacity, reliability and productivity.
- Rigid attachment of driver compartment to strong truck base enables higher lifting, increases residual capacities and enhances driving characteristics.
- Latest reach carriage solution features adjustable clearance rollers for optimised mast behaviour.
- Widely separated support legs (1,070 mm inner width) aid visibility, protection and precise manoeuvring of loads.
- Wide drive wheel (140 mm) improves truck handling and stability, as well as slowing down wear.
- Large oil tank capacity maintains steady oil temperature, for reliable hydraulic functions and consistent load control which enable stable, high lifting.

## SAFETY AND ERGONOMICS

- Spacious driver's compartment safely and comfortably accommodates users of all sizes.
- Steering assembly is adjustable in all directions, to suit driver's size and preference, and can be lifted upward for easy entry, exit and maintenance access.
- Steering wheel design features notches which allow control from many different hand positions, according to the driver's needs and habits.
- Adjustable cushioned armrest houses spring-force-optimised fingertip hydraulic controls and is designed to combine anatomical support with free movement and perfect hand positioning.
- Direction control by foot can be programmed – as an alternative to switching by hand on the armrest – if driver prefers.
- Large, optimally angled and positioned pedals give good control without strain.
- Multifunctional display keeps driver fully informed with bright, coloured readouts, and is optimally positioned and angled for clear viewing.
- Cabin furnishing includes convenient storage features – for secure containment of items like drinks, documents, writing pad, pens, tools and phone – and the driver space is attractively lined with comfortable material.
- Grammer seats offer high comfort and ergonomic sitting position, with adjustment for driver size, weight and backrest tilt preference as standard.
- High-performance seat options with mechanical or air suspension offer choices including extra adjustments, additional support features and heating.
- Driver's entry and exit are aided by a wide, deep step, at optimal height, and by hand grips on each side which also protect shoulders when seated.
- Sturdy but lightweight lift carriage design gives safe control with a clear view.
- Overhead guard design gives optimum combination of upward vision and safety.
- Automatic drive speed reduction systems make smooth, stepless adjustments according to steering angle and lift height, to prevent unsafe driver behaviour when cornering or carrying raised loads.
- Reduced reach speed above initial lift adds a further safeguard against accidentally throwing loads from pallets.
- Progressive steering is steplessly adjusted according to drive speed, for optimum response and control.
- Operator presence pedal requires only the driver's leg weight – and no effort – to maintain its 'dead man' safety function.
- Emergency stop button is easy to reach from armrest.
- Strong battery locking mechanism combines with inbuilt broad battery rollers for fast, easy and safe exchanges.
- Battery change options include table for two batteries, fixed to floor, as well as quick-change system with battery lock pedal and lock-detecting sensor.

# STANDARD EQUIPMENT AND OPTIONS

	NR14N2L	NR16N2L
<b>GENERAL</b>		
Operator selectable economy or high performance modes ECO/PRO	●	●
Multifunctional colour display (hour meter, BDI, drive speed, time and date display)	●	●
Load weight indicator	○	○
Lift hydraulic and drive interlock / PDS	●	●
Integrated sideshift and tilt fork carriage	●	●
360-degree steering with fully adjustable steering column	●	●
Drive speed limitation according to lift height	●	●
Load wheel brakes	○	○
SST - Seat Switch Timeout: all functions are disabled, truck enters 'stop mode' and park brake is automatically applied	●	●
Trucktool setup and diagnostics	●	●
Lateral battery change, chassis integrated roller bed	●	●
<b>POWER SOURCE</b>		
Li-ion battery*	○	○
Lead-acid battery	○	○
<b>MAST, FORKS AND CARRIAGE</b>		
Load backrest	○	○
Tilt fork carriage with integrated shideshift	●	●
Load weight indicator in 25 kg increments	○	○
Passive sway control for mast	●	●
<b>DRIVE AND LIFT CONTROLS</b>		
Variable speed control on all hydraulic controls	●	●
Curve control	●	●
Armrest direction control	●	●
Automatic sideshift and tilt centring via the F2 button on fingertip controller	○	○
Electric load wheel brakes	○	○

\* Li-ion battery option is available in selected regions.



## FULL LI-ION\* BATTERY INTEGRATION

Full integration of Li-ion battery communication on Cat reach trucks enables all battery-related information to be presented clearly via the truck's inbuilt full-colour display.



● Standard    ○ Option

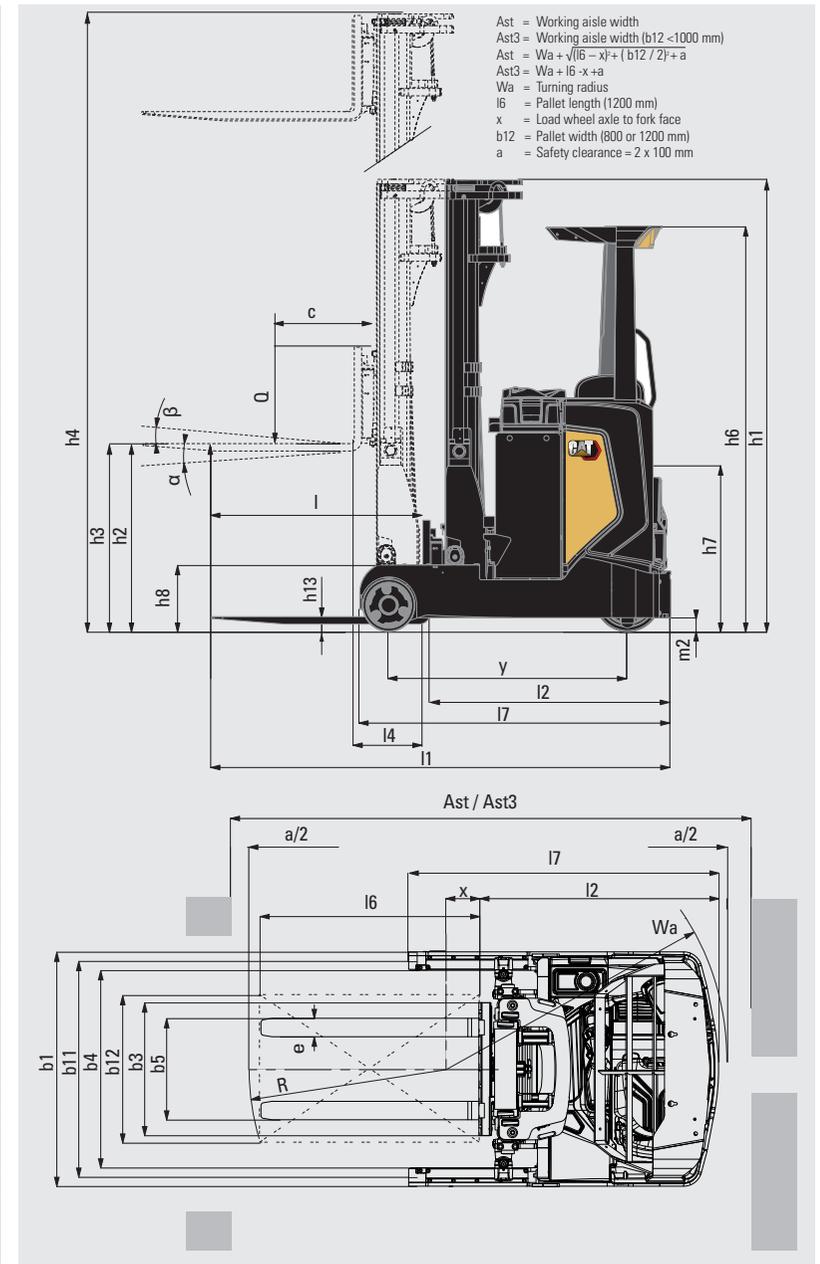
# STANDARD EQUIPMENT AND OPTIONS

	NR14N2L	NR16N2L
<b>ELECTRIC</b>		
Fork-mounted camera with 7" LCD display	○	○
Fork-mounted camera with LED light and 7" display	○	○
Blue spot safety light, towards driving direction	○	○
Drive light LED	○	○
Working lights LED, mounted on mast towards fork direction	○	○
Warning light (yellow) on the roof	○	○
Drive alarm	○	○
PIN code access	○	○
Current output 12V, 4.5A including 5V USB connector	○	○
24V, 12.5A power supply for accessories	○	○
Audio system, incl. speakers, 3.5mm jack connector	○	○
<b>OHG AND CABIN</b>		
Grammer MSG20 cloth seat	●	●
Grammer MSG65 cloth seat with seat belt	○	○
Grammer MSG75 cloth seat with air suspension, armrest, backrest extension and seat belt	○	○
Rear view mirror, wide view	○	○
Plexi or steel net roof cover	○	○
Fire extinguisher	○	○
Accessory rack	○	○
A4 list bracket	○	○
Computer bracket	○	○
<b>WHEEL OPTIONS</b>		
'Powerthane' polyurethane traction and load wheels	●	●
'Vulkollan' polyurethane traction and load wheels for high load weights	○	○
Power friction traction wheel	○	○
Anti-static wheel set	○	○
<b>ENVIRONMENT</b>		
Hot storage modification > 40°C	○	○



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)
2.3	Axle loadings without load and with maximum battery weight, drive / load side		(kg)
2.4	Axle loading, mast forward, with nominal load, drive / load side		(kg)
2.5	Axle loading, mast retracted, with nominal load, 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)
3.5	Number of wheels, load / drive side (x = driven)		
3.7	Track width (centre of tyres), load side	b11	(mm)
Dimensions			
4.1	Fork tilt, forwards / backwards	∂, B	(°)
4.2a	Height with mast lowered	h1	(mm)
4.3	Free lift	h2	(mm)
4.4	Lift height	h3	(mm)
4.5	Height with mast extended	h4	(mm)
4.7	Height to top of overhead guard	h6	(mm)
4.8	Seat or stand height	h7	(mm)
4.10	Height of support legs	h8	(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)
4.23	Fork carriage to DIN		
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)
4.28	Mast reach	l4	(mm)
4.32	Ground clearance at centre of wheelbase (forks lowered)	m2	(mm)
4.33a	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise	Ast	(mm)
4.33b	Working aisle width (Ast3) with 1000 x 1200 mm pallets, load crosswise	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)
4.35	Turning radius	Wa	(mm)
4.37	Truck length including support legs	l7	(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
5.5	Rated drawbar pull, with / without load		N
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
6.4	Battery voltage/capacity at 5-hour discharge		V / Ah
6.5	Battery weight		kg
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
	NR14N2L	NR16N2L
	Battery	Battery
	Sit-on	Sit-on
	1400	1600
	600	600
	See table	See table
	1300	1300
	3421 <sup>8)</sup>	3421 <sup>8)</sup>
	1925 / 1496 <sup>8)</sup>	1925 / 1496 <sup>8)</sup>
	496 / 4561 <sup>8)</sup>	496 / 4561 <sup>8)</sup>
	1355 / 3692 <sup>8)</sup>	1355 / 3692 <sup>8)</sup>
	PT	PT
	∅360 x 140	∅360 x 140
	∅285 x 75	∅285 x 75
	2 / 1 x	2 / 1 x
	1195	1195
	2 / 4	2 / 4
	See table	See table
	2200	2200
	1030 <sup>1)</sup>	1030 <sup>1)</sup>
	360	360
	85	85
	See table	See table
	See table	See table
	1270	1270
	40/ 100/ 1150	40/ 100/ 1150
	FEM 2A	FEM 2A
	720	720
	315 - 710	315 - 710
	1070	1070
	See table	See table
	See table	See table
	75	75
	See table	See table
	1693	1693
	12 / 12 <sup>4)</sup>	12 / 12 <sup>4)</sup>
	0.4 / 0.65	0.4 / 0.65
	0.55 / 0.5	0.55 / 0.5
	0.2 / 0.2	0.2 / 0.2
	10 / 15	10 / 15
	5.0 / 4.5	5.0 / 4.5
	Electric	Electric
	7.5	7.5
	10	10
	48 / 465, 620, 775	48 / 465, 620, 775
	700, 900, 1100	700, 900, 1100
	Stepless	Stepless
	67 <sup>2)</sup>	67 <sup>2)</sup>
	58 / 73 / 50 <sup>2)</sup>	58 / 73 / 50 <sup>2)</sup>
	0.31 <sup>3)</sup>	0.31 <sup>3)</sup>
	< 2.5 <sup>3)</sup>	< 2.5 <sup>3)</sup>



- 1) Measured with standard seat to SIP point
- 2) Inaccuracy of 4dB (A)
- 3) Body tremble measured with air pressured seat
- 4) Max drive speed to fork direction 9 km/h
- 5) Weight values measured with 5700mm lift height mast & 775Ah battery
- 6) Weight values measured with 10000mm lift height mast & 930Ah battery
- 7) Energy consumption values measured with 5700mm lift height mast
- 8) Weight values measured with 7500mm lift height mast & 620Ah battery

Model	h3+h13	h1	h2	h4*
	mm	mm	mm	mm
NR14/16N2L	4800	2110	1700	5625
	5400	2310	1900	6225
	5700	2410	2000	6525
	5900	2480	2070	6725
	6300	2640	2230	7125
	7000	2940	2530	7825
	7500	3110	2700	8325

\*with load backrest

## Mast Performance and Capacity

- h1 Height with mast lowered
- h2 Standard free lift
- h3 Lift height
- h4 Height with mast raised
- h13 Fork height, fully lowered

Model	Battery Capacity	Battery Weight	4.33a Ast	4.33b Ast3	4.34a Ast	4.34b Ast3	4.28 L4	4.20 L2	4.19 L1	1.8 x	4.35 Wa
	Ah	kg	mm	mm	mm	mm	mm	mm	mm	mm	mm
NR14/16N2L	465	700	2695	2480	2762	2680	463	1264	2414	271	1551
	620	900	2752	2552	2829	2752	391	1336	2486	199	1551
	775	1100	2810	2624	2896	2824	319	1408	2558	127	1551



# 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.

 <b>LONGER LIFE</b>	 <b>HIGHER EFFICIENCY</b>	 <b>LONGER RUNTIME</b>	 <b>CONSISTENT PERFORMANCE</b>
 <b>FASTER CHARGING</b>	 <b>NO BATTERY CHANGING</b>	 <b>NO DAILY MAINTENANCE</b>	 <b>INBUILT PROTECTION</b>

### 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.

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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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