



NSR12N2TF



DOUBLE-DEEP COST- SAVING CAPABILITIES

SPECIFICATIONS

STAND-IN STACKER WITH TELESCOPIC FORKS 24V, 1.2 TONNES



STEP IN, REACH OUT AND WIN

TELESCOPIC FORKS EXTEND THE ADVANTAGES OF OUR WORLD-LEADING STAND-IN STACKER DESIGN AND TECHNOLOGY. WITH DOUBLE-DEEP REACHING CAPABILITIES, THIS TRUCK WILL FURTHER INCREASE YOUR STORAGE DENSITY. ITS VERSATILITY, HIGH PERFORMANCE AND TOP-QUALITY ENGINEERING COMBINE TO BOOST PRODUCTIVITY AND LOWER TCO (TOTAL COST OF OPERATION).



Although specialised for double-deep racking systems, the truck has many other uses. Like handling long loads or reaching across lorry cargo areas. It can act as a reach truck, a four-point straddle stacker, a pallet truck and an order picker.



More compact and manoeuvrable than a platform stacker or reach truck, it allows narrowing of your aisles. Meanwhile, its advanced hydraulic, telescoping, drive, steering and stability systems make every operation faster and smoother. The result: better space utilisation and higher handling-cycle work rates.



Contained and protected within the truck's robust structure, operators work quickly and confidently – with lower accident and damage risk – thanks to automated speed and stability aids. The operator compartment is vibration-free, comfortable, quiet and very easy to enter and exit.



Ergonomic controls give further comfort, job satisfaction and productivity – and avoid stress, strain and fatigue. They include a fully adjustable (up/down, forward/back) steering console, allowing the perfect driver position, and armrest-mounted features for simultaneous control of drive and hydraulic functions.

LOWER COST OF OPERATION

- Robust construction and component sealing minimises damage and wear, even in demanding multi-shift operations.
- Multifunctional display option with onboard diagnostics encourages correct use of truck and speeds up maintenance.
- PIN code identification prevents unauthorised use, while choice of PRO, ECO and EASY modes matches truck performance to operator experience and application. (Only with multifunctional display option.)
- Easy, fail-safe battery lock avoids delays and accidents at exchanges.
- Fast maintenance access combines with low servicing requirements and long service intervals to reduce downtime.
- Availability of fully integrated Li-ion battery increases battery efficiency, runtime and lifespan, while minimising maintenance needs, for even lower total cost of operation (TCO).
- Advanced motors, regenerative braking and efficient mast designs save on energy and hydraulic oil consumption.
- High levels of component sharing maximise parts availability – and reduce downtime, stock and carbon costs – across the Cat stacker and power pallet ranges.

UNMATCHED PRODUCTIVITY

- Widely spaced support legs allow lowering of forks to the floor, for handling of closed-base pallets and other carriers without open fork spaces or pockets.
- Width between straddle legs (B4) is 950 or 750 mm as standard, or can be customised, for optimum adaptation to the racking layout and application.
- Straddle legs have single wheels (or tandem as option) and a low-profile design, slightly angled downward toward their end point, for improved drive-in and ground clearance and better performance on gradients.
- Fork tips are slightly pointed and tapered, to avoid sticking, for easier and faster pallet entry and exit even while turning at the same time.
- Extensive triplex mast choice offers standard lift heights from 4.8 to 6.3 m, plus custom heights above, below and between, to match applications perfectly.
- Powerful and quiet hydraulic motor is smoothly governed by stepless, speed-regulated lifting and lowering control, for quick but safe and accurate fork positioning and movement.

- Enhanced deration performance allows 1.2 tonne rated capacity, enabling storage of heavier loads at each level and improving utilisation of space.
- Creep speed feature increases load capacity for lifts above 1.18 m by automatically limiting travel to 5 km/h when forks reach that height.
- Super-fast hydraulic telescopic fork attachment is precisely speed-regulated for accurate control (including creep speeds), confident and safe operation, and a satisfying user experience.
- Level Assistance System (LAS) option gives a highly intuitive way of stopping at, or bypassing, pre-set heights.
- Integrated functionality saves time by allowing simultaneous control of drive speed and mast/fork movements.
- Ergo forks trailing control option allows speed adjustment from a more convenient position - as well as clearer vision - for operators standing in the direction of travel with forks trailing.
- Advanced AC motor and control technology enables fast, smooth and precise driving, lifting and lowering.
- Progressive electric power steering automatically adjusts sensitivity according to speed, for high precision in tight manoeuvres and high stability when travelling fast and straight.
- Automatic cornering control reduces maximum travel speed according to steering angle, to ensure quick but safe, stable and confident turns.
- 360-degree steering option allows truck to turn and move in opposite direction, without stopping, in one smooth manoeuvre – for substantial time gains, especially in complex layouts and highly repetitive handling cycles.
- With Li-ion battery, performance is enhanced and fast opportunity charging is possible, via easily accessible connector, for continuous operation without battery changes.
- With lead-acid battery, an optional plug on the machine housing allows quick and easy charging without disconnecting the battery.
- Broad range of specialised options gives class-leading adaptability to different applications, for optimum productivity, ergonomics and safety.

SAFETY AND ERGONOMICS

- Enclosed operator position ensures all-round protection by heavy-duty chassis, integrated bumper, overhead guard pillars and roof.
- Comfortable operator compartment minimises strain and tiredness with low step-in height, fully floating floor, outstanding levels of vibration damping, cushioned backrest, and plenty of space.
- Optical presence sensor reduces stress and fatigue by allowing operator to make small foot movements without accidentally activating automatic braking.
- Fully adjustable steering wheel allows different driving positions depending on travel direction.
- Adjustable armrest comfortably supports wrist while positioning hand ideally to operate the thumbwheel throttle, fingertip hydraulic levers and other controls simultaneously.
- Clear all-round, forward and fork-tip view is achieved through careful design of mast, fork carriage, overhead guard, pillars and chassis, and by low-reflection surfaces.
- Effective mast and fork carriage damping ensures soft landings, smooth stage transitions and rattle-free travel – allowing comfortable load handling and driving with maximum performance throughout long shifts.
- Low-noise specification includes quiet, temperature-controlled fans and speed-regulated lift pump motors, for a pleasant operator environment.
- Working aids include large tool storage compartment – under armrest and accessible from outside truck – plus holders for smaller equipment, phone and drinks, and a writing desk with paper clamp.
- Intuitive multifunctional display option keeps drivers fully informed and is optimally positioned and angled for clear viewing.

EVERYONE'S A WINNER

Unprecedented levels of component sharing within the Cat® stacker and power pallet portfolio bring additional gains. Fixes are faster, with minimal downtime. Less stock investment is needed. And fewer service van and parts delivery journeys mean a smaller carbon footprint. Everyone wins!

STANDARD EQUIPMENT AND OPTIONS

NSR12N2TF	
GENERAL	
Regular narrow straddle legs for handling of open load carriers	—
Initial lift for double load handling	—
Wide straddle legs for handling of both closed and normal load carriers	●
Telescopic forks with extended reach, used for example in double-deep stacking and in handling closed load carriers	●
Standard display incl. hour meter and battery discharge indicator (BDI)	●
Key switch entry	●
Electric power steering, with Flexi steering wheel	●
Automatic straight steering at start-up	●
Adaptive cornering control	●
Speed-regulated lift motor and proportional valve for lowering	●
Tandem load wheels Vulkollan	○
Overhead guard (OHG)	●
Adjustable armrest	●
Adjustable steering wheel	●
Storage compartment under armrest	●
Writing desk with paper clip	●
Battery on rollers	●
POWER SOURCE	
Li-ion batteries *	○
Lead-acid batteries	○
ENVIRONMENT	
Chill store design, down to -10°C	●
Cold store design, 0°C to -30°C	○
DRIVE AND LIFT CONTROLS	
Height and sideways adjustable Flexi steering wheel	●
Fingertip controls for lifting/lowering	●
360-degree steering	○
Reversed steering	○
WHEEL OPTIONS	
Vulkollan	●
Tractothan	○
Super Grip	○
OTHER OPTIONS	
Side stabilisers	—
High-performance lift motor system 8.0 kW AC	○
Ergo Forks Trailing Speed Control (EFTC)	○
Foot protection light barrier in driver compartment	○
Floor spot warning red or blue	○
Comfort and anti-slip floor mat in driver compartment (recommended)	○
Interactive multifunctional display incl. BDI & hour meter, PIN code login (100 codes) and graphic icons	○
Foldable seat	○
Load backrest 1200 mm	—
Key switch entry (in combination with multifunctional display)	○
Laser positioning guide	—
Load weight indicator	○
Lift height indicator	○
Level Assistance System (LAS)	○
Video camera and monitor	○
Panoramic ProVision OHG roof	○
12V DC power socket	○
5 V USB socket	○
Accessory rack	○
Writing desk incl. RAM C holder	○
Accessory rack holder RAM system size C	○
Accessory rack holder RAM system size C, 2 pcs	○
Accessory rack holder RAM size D	○
Working lights LED	○
Increased drive speed 12 km/h	—
Special RAL colour	○



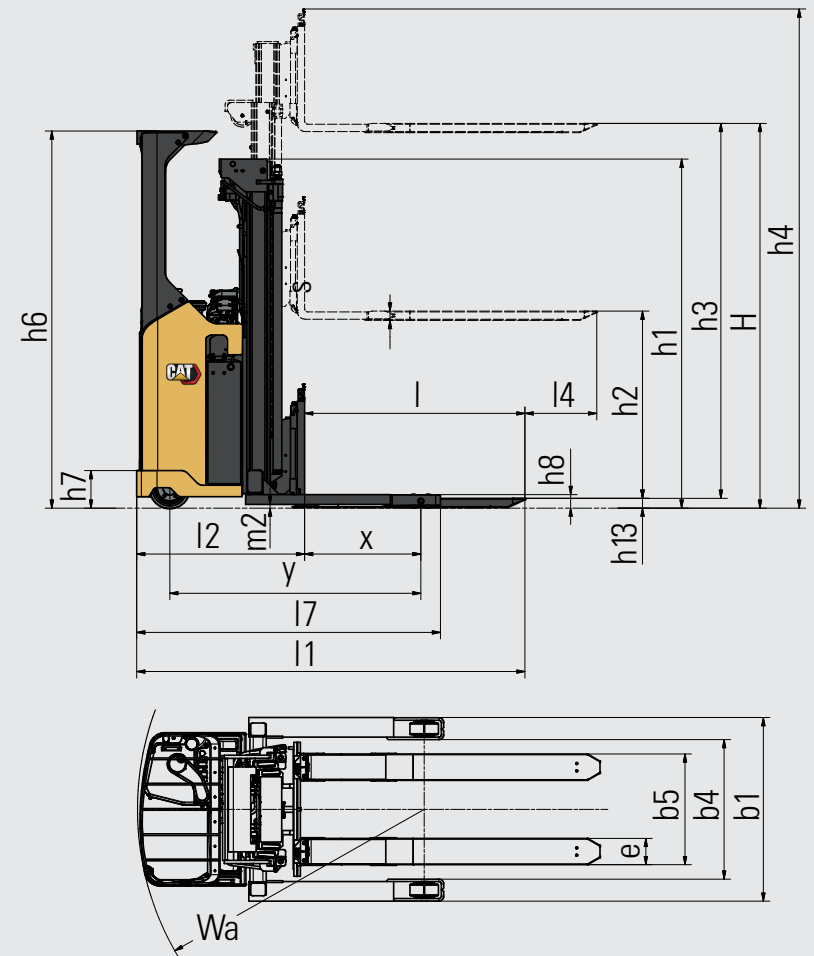
Standard



Option

* Li-ion battery option is available in selected regions

Characteristics					
1.1	Manufacturer		Cat Lift Trucks		
1.2	Manufacturer's model designation		NSR12N2TF		
1.3	Power source		Battery		
1.4	Operator type		Stand-in		
1.5	Load capacity	Q (kg)	1200		
1.6	Load centre distance	c (mm)	600		
1.8	Load wheel axle to fork face (forks lowered)	x (mm)	714		
1.9	Wheelbase	y (mm)	1540 ²⁾		
Weight					
2.1b	Truck weight without load, with maximum battery weight	kg	2068		
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side	kg	1468 / 1800		
2.3	Axle loadings without load & with maximum battery weight, drive / load side	kg	1448 / 620		
Wheels, Drive Train					
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side		Vul / Vul		
3.2	Tyre dimensions, drive side	(mm)	250 x 105		
3.3	Tyre dimensions, load side	(mm)	150 x 55		
3.4	Castor wheel dimensions (diameter x width)	(mm)	150 x 55		
3.5	Number of wheels, load / drive side (x = driven)		2 / 1x + 2 ¹⁾		
3.6	Track width (centre of tyres), drive side	b10 (mm)	651		
3.7	Track width (centre of tyres), load side	b11 (mm)	850 / 1050		
Dimensions					
4.2a	Height with mast lowered	h1 (mm)	see mast charts		
4.2b	Height	h1 (mm)	see mast charts		
4.3	Free lift	h2 (mm)	see mast charts		
4.4	Lift height (stroke)	h3 (mm)	see mast charts		
4.5	Height with mast extended	h4 (mm)	see mast charts		
4.7	Height to top of overhead guard	h6 (mm)	2310		
4.8	Seat or stand height	h7 (mm)	230		
4.10	Height of support legs	h8 (mm)	110		
4.15	Fork height, fully lowered	h13 (mm)	65		
4.19	Overall length	l1 (mm)	2229 ²⁾		
4.20	Length to fork face	l2 (mm)	1029 ²⁾		
4.21	Overall width	b1 (mm)	950 / 1150 ⁸⁾		
4.22	Fork dimensions (thickness, width, length)	s / e / l (mm)	57 / 169 / 1200		
4.23	Fork carriage to DIN		FEM 3/A		
4.24	Fork carriage width	b3 (mm)	820		
4.25	Outside width over forks (minimum / maximum)	b5 (mm)	578 / 842		
4.26	Inner width of support legs	b4 (mm)	750 / 950 ⁸⁾		
4.28	Mast reach travel	l4 (mm)	850 ³⁾		
4.32	Ground clearance at centre of wheelbase, (forks lowered)	m2 (mm)	40		
4.33a	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise	Ast (mm)	2623		
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast (mm)	2587		
4.35	Turning radius	Wa (mm)	1758		
4.37	Truck length including support legs	l7 (mm)	1848 ²⁾		
Performance					
5.1	Travel speed, with / without load	km / h	8.0 / 8.0		
5.2	Lifting speed, with / without load	m / s	0.15 / 0.26 ⁴⁾		
5.3	Lowering speed, with / without load	m / s	0.38 / 0.38 ⁴⁾		
5.8	Maximum gradeability with / without load	%	7.8 / 7.8		
5.9	Acceleration time (10 metres) with / without load	s	6.5 / 5.5		
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		Electric		
Electric motors					
6.1	Drive motor capacity (60 min. short duty)	kW	2.7		
6.2	Lift motor output at 15% duty factor	kW	8.0 ⁵⁾		
6.3	Battery to DIN		DIN-cells		
6.4	Battery voltage/capacity at 5-hour discharge	V / Ah	24 / 465 ⁶⁾		
6.5	Battery weight	kg	330-400 ⁶⁾		
6.6a	Energy consumption according to EN 16796 cycle	kWh / h	0.87 ⁷⁾		
Miscellaneous					
8.1	Type of drive control		AC		
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		
10.7.2	Whole-body vibration (EN 13 059:2002)		See instruction handbook		
10.7.3	Hand-arm vibration (EN 13 059:2002)		See instruction handbook		



$$Ast = Wa + R + a$$

$$Ast3 = Wa + l6 - x + a$$

$$Ast = \text{Working aisle width}$$

$$Wa = \text{Turning radius}$$

$$a = \text{Safety clearance} = 2 \times 100 \text{ mm}$$

$$R = \sqrt{(l6 - x)^2 + (b12 / 2)^2}$$

*) All dimensional values, weights and measures vary according to configuration

1) 4-point design with twin assembly drive side castor wheels

2) When Senior (BC775) chassis add +104

3) Telescopic forks reach travel, optional reach 450-1000

4) Standard motor, not sufficiently tested with the 8.0 kW heavy-duty option yet

5) With heavy-duty lift motor, standard is 4.0

6) With Senior chassis, 24V / 560-775Ah and 460-620 kg

7) Ref. test value with 8.0 kW lift motor, varies according to model, config and usage pattern

8) There are two standard straddle/support legs widths available to choose from (ref. b1/b4)

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Mast Type	h3+h13	h1	h4	h2+h13
Wide	mm	mm	mm	mm
DTFV / TREV Telescopic forks	4800	2150	5750	1225
	5400	2350	6350	1425
	5700	2450	6650	1525
	6300	2650	7250	1725

Mast Performance and Capacity

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



LI-ION BATTERIES

TIME TO SWITCH?



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

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



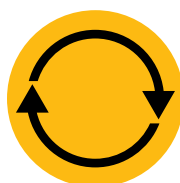
**LONGER
LIFE**



**HIGHER
EFFICIENCY**



**LONGER
RUNTIME**



**CONSISTENT
PERFORMANCE**



**FASTER
CHARGING**



**NO BATTERY
CHANGING**



**NO DAILY
MAINTENANCE**



**INBUILT
PROTECTION**

Cat Li-ion advantages over lead-acid

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

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

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

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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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