# **SPECIFICATIONS STAND-IN POWER PALLET TRUCKS** 24V, 2.0 - 3.0 TONNES



# STAND-IN POVER



NPR20N2 NPR30N2

# **STEP IN AND STEP UP**

COMPACT, RAPID AND HIGHLY MANOEUVRABLE. STAND-IN POWER PALLETS WILL BOOST YOUR OUTPUT, LOWER YOUR COSTS AND INCREASE YOUR STORAGE DENSITY. IDEAL FOR FAST INTERNAL TRANSPORT OF HEAVY AND LONG LOADS. FROM SHORT SHUTTLE RUNS TO LARGE DISTANCES – AND EVERYTHING IN BETWEEN.





Compared to platform power pallets, standin trucks are more compact and quicker to manoeuvre – with no stops for folding and unfolding. Advanced drive, steering and stability systems make every operation faster and smoother. Perfect for production, warehouse and cross-dock applications, including intense, multi-shift use.



Quite simply, you will get more work done, in less time, with fewer trucks and operators – which all helps to lower your total cost of operation (TCO). Stand-in trucks also allow you to use your valuable warehouse space more fully by reducing aisle width. Operators can work quickly and confidently, with less risk of accidents and damage, thanks to automated speed and stability aids. They are contained and protected within the truck's robust structure, which encloses a comfortable, quiet, vibration-free operator compartment with easy entry and exit.



Comfort, job satisfaction and productivity are further enhanced by ergonomic controls which minimise stress, strain and fatigue. These 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 OWNERSHIP

- 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.
- Fully integrated Li-ion option increases battery efficiency, runtime and lifespan, while minimising maintenance needs, for even lower total cost of operation (TCO).

## **UNMATCHED PRODUCTIVITY**

- Advanced AC motor and control technology enables fast, smooth and precise driving and load handling.
- Progressive electric power steering automatically adjusts sensitivity according to speed and angle, 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.
- Tapered forks and angled fork tips permit faster pallet entry with less risk of damage.
- High ground clearance avoids sticking on ramps and uneven floors.
- Battery on steel rollers with bearings enables rapid changes with minimal interruption of productivity.
- With Li-ion battery, performance is enhanced and fast opportunity charging is possible, via easily accessible connector, for continuous operation without battery changes.
- 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.
- 360-degree steering option enables fluid turning without stopping to change direction.
- Increased drive speed option gives maximum of 12 km/h (load trailing) and 10 km/h (load leading) with loads up to 1 tonne (top speed is automatically reduced for heavier loads).

• Other application-matched options include longer forks and fitting of specialised attachments such as paper roll clamps.

## **SAFETY AND ERGONOMICS**

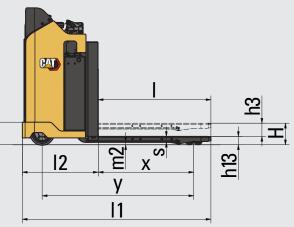
- Enclosed operator position ensures all-round protection by heavy-duty chassis, integrated bumper and – optionally – overhead guard pillars and roof.
- Comfortable operator compartment minimises strain and tiredness with low step-in height, fully floating floor, outstanding levels of vibration damping, 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 and fork-tip view is achieved through careful design.
- 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.

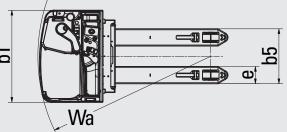


# **STANDARD EQUIPMENT AND OPTIONS**

	NPR20N2	NPR30N2
GENERAL		
Standard display incl. hour meter and battery indicator		
Key switch entry		•
Electric power steering		•
Speed-regulated lift motor and proportional valve for lowering		
Tandem load wheels Vulkollan		•
Adjustable armrest		•
Adjustable steering wheel		•
Storage compartment under armrest		•
Writing desk with paper clip		•
Battery rollers		
Chill store design, down to -10°C		
POWER SOURCE		
Li-ion batteries	0	0
Lead-acid batteries	0	0
ENVIRONMENT		
Cold store design, 0°C to -30°C	0	0
DRIVE AND LIFT CONTROLS		
Height-adjustable steering wheel		
Fingertip controls for lifting/lowering		•
WHEEL OPTIONS		
Vulkollan		
Tractothan	0	0
Super grip	0	0
OTHER OPTIONS		
Ergo forks trailing control , EFTC	0	0
360-degree steering	0	0
Multifunctional display incl. BDI and hour meter, PIN code login (100 codes) and graphic icons	0	0
Foldable seat	0	0
Load backrest	0	0
Key switch entry (in combination with multifunctional display)	0	0
Overhead guard	0	0
Panoramic ProVision roof	0	0
12V DC power socket	0	0
5V USB socket	0	0
Accessory rack	0	0
Writing desk incl. RAM C holder	0	0
Accessory rack holder RAM system size C	0	0
Accessory rack holder RAM system size C, 2 pcs	0	0
Accessory rack holder RAM size D	0	0
Working lights LED	0	0
Increased drive speed	0	0
Special RAL colour	0	0

	Characteristics					
1.1	Manufacturer			Cat Lift Trucks	Cat Lift Trucks	
1.2	Manufacturer's model designation			NPR20N2	NPR30N2	
1.3	Power source			Battery	Battery	
1.4	Operator type			Stand-in	Stand-in	
1.5	Load capacity	Q	(kg)	2000	3000	
1.6	Load centre distance	С	(mm)	600	600	
1.8	Load wheel axle to fork face (forks lowered)	х	(mm)	975	975	
1.9	Wheelbase	у	(mm)	1547 <sup>1)</sup>	1547 <sup>1)</sup>	
	Weight					
2.1b	Truck weight without load, with maximum battery weight		kg	985	1095	
2.2	Axle loadings with nominal load & maximum battery weight, drive/load side		kg	1140 / 1845	1390 / 2705	
2.3	Axle loadings without load & with maximum battery weight, drive/load side		kg	770 / 215	825 / 270	l î l
	Wheels, Drive Train					
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)	250 x 105	250 x 105	
3.3	Tyre dimensions, load side		(mm)	85 x 70	85 x 70	
3.4	Castor wheel dimensions (diameter x width)		(mm)	150 x 55	150 x 55	
3.5	Number of wheels, load/drive side (x=driven)			1 x + 2 / 4	1 x + 2 / 4	
3.6	Track width (centre of tyres), drive side	b10	(mm)	662	662	
3.7	Track width (centre of tyres), load side	b11	(mm)	385	385	H H
	Dimensions	1.0	( )			
4.4	Lift height	h3	(mm)	135	135	
4.7	Height to top of overhead guard	h6	(mm)	2310 opt	2310 opt	
4.8	Seat or stand height	h7	(mm)	230	230	
4.15	Fork height, fully lowered	h13	(mm)	88	88	T /
4.19	Overall length	1  2	(mm)	1923 <sup>1)</sup>	1923 <sup>1)</sup>	
4.20	Length to fork face	b1/b2	(mm)	773 1)	773 1)	
4.21	Overall width	s/e/	(mm) (mm)	940	940	10
4.22	Fork dimensions (thickness, width, length) Outside width over forks (minimum/maximum)	b5	(mm)	60 / 175 / 1150 560	60 / 175 / 1150 560	_
4.25		m2	(mm)	25	25	
4.32 4.33a	Ground clearance at centre of wheelbase, (forks lowered) Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise	Ast	(mm)	2381 2)	2381 2)	
4.33b		Ast3	(mm)	1997	1997	<u> </u>
4.34a		Ast	(mm)	2397 3)	2397 3)	
4.34b		Ast3	(mm)	2192	2192	
4.35	Turning radius	Wa	(mm)	1705 4)	1705 4)	
4.00	Performance	, nu	(,	1765	1700	
5.1	Travel speed, with/without load		km/h	10 / 10	9/9	
5.2	Lifting speed, with/without load		m/s	0.07 / 0.09	0.06 / 0.10	
5.3	Lowering speed, with/without load		m/s	0.12 / 0.09	0.10 / 0.07	
5.7	Gradeability, with/without load		%	6.0 / 15.0	6.0 / 15.0	
5.8	Maximum gradeability, with/without load		%	14 / 28.4	11 / 28.4	
5.9	Acceleration time (10 metres) with/without load		s	7.0 / 6.0	7.5 / 6.0	
5.10	Service brake			Electric	Electric	
	Electric motors					Ast = Wa +
6.1	Drive motor capacity (60 min. short duty)		kW	2.7	2.7	Ast3 = Wa +
6.2	Lift motor output at 15% duty factor		kW	2.2 (5%)	2.2 (5%)	Ast = Work
6.4	Battery voltage/capacity at 5-hour discharge		V /Ah	24 / 345 - 775	24 / 345 - 775	Wa = Turni
6.5	Battery weight		kg	330-610	330-610	a = Safet
6.6b	Energy consumption according to VDI 60 cycle		kWh/h	0.449	0.567	
	Miscellaneous					$R = \sqrt{(16)}$
8.1	Type of drive control			AC	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)	63.9	64.1	
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)	68.3/64.9/47.4	68.3/64.9/47.4	





ı + R + a a + 16 - x + a orking aisle width rning radius fety clearance = 2 x 100 mm  $\frac{1}{16-x^2+(b12/2)^2}$ 

1) When Senior/BC775 then add 104 mm 2) 2482 mm SN/BC775 3) 2498 mm SN/BC775 4)1806 mm SN/BC775

# **LI-ION BATTERIES**

# **CONSIDER THE BENEFITS OF LI-ION BATTERY TECHNOLOGY**



Lithium-ion (Li-ion) battery technology is available in the Cat<sup>®</sup> 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 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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