

NPP16N3 NPP18N3 NPP20N3

NPP12N2D

NPP20N3R NPP20N3E

**SPECIFICATIONS** 

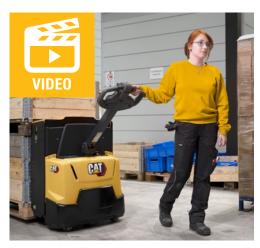
**PEDESTRIAN POWER PALLET TRUCKS** 24V, 1.2 - 2.0 TONNES



# IDEAL FOR EFFICIENT LOADING, UNLOADING AND SHUTTLE APPLICATIONS

TAKING MOST OF THE LEGWORK OUT OF PEDESTRIAN PALLET HANDLING, THE NPP RANGE IS IDEAL FOR BOTH HORIZONTAL MOVEMENTS AND VEHICLE LOADING/UNLOADING. ITS INDUSTRY-LEADING PERFORMANCE INSPIRES CONFIDENCE AND BOOSTS PRODUCTIVITY IN ANY APPLICATION.





The NPP16N3 is an ideal all-round machine for light handling applications and is small enough to be used on a mezzanine floor or transported in the back of a goods vehicle. The NPP18N3 and NPP20N3 add greater capacity for heavier loads and more intensive work.



The NPP12N2D pedestrian double pallet handler boosts productivity by carrying two pallets simultaneously (one above the other). It is ideal for loading and unloading on dock levellers, picking and refilling, and transporting loads over short distances in warehouses, supermarkets and production areas.



The NPP20N3R is equipped with a foldable platform for occasional use when driving over longer distances. The spacious platform of the NPP20N3R, with suspension for a comfortable ride, is easy to get on and off, and also offers good ground clearance.



The NPP20N3E is equipped with lifting forks (730 mm height) that offer an ergonomic position for loading and unloading items with minimal physical strain.

#### **LOWER COST OF OWNERSHIP**

- Sturdy chassis construction and endurance-tested forks provide enhanced robustness and durability even in the toughest conditions.
- Sealed 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, reducing downtime still further.
- Integrated drive and lift system features fewer components than previous models, reducing scope for breakdown.
- Closed battery compartment with steel cover protects battery against impacts, postponing costly battery replacement.
- Standard battery sizes allow interchangeability with other brands.

#### **UNMATCHED PRODUCTIVITY**

- Standard LCD display\* offers clear information on truck and battery condition.
- Ergonomic tiller arm helps keep operators fresh with comfortable controls.
- Increased maximum lift height suits even steep ramps and loading docks, making this an ideal truck for both horizontal pallet movements and vehicle loading/unloading.
- Advanced AC programmable controller lets users prioritise between faster performance and smoother handling, ensuring the most appropriate settings for the job.
- Rounded fork tips make for accurate and effortless pallet entry, speeding up handling cycles and preventing pallet or load damage.
- Distance of the fork support wheels from the rear frame has been optimised for increased stability.
- The NPP20N3R, with a maximum speed of 6 km/h, is equipped with a foldable platform for occasional use when driving over longer distances.
- The double pallet handler, NPP12N2D, can carry two pallets simultaneously (one above the other) for higher productivity with no need for wider passage space.

#### **SAFETY AND ERGONOMICS**

- Latest tiller arm design permits comfortable operating position with optimum hand protection.
- Super-quiet oil-filled transmission helps keep noise levels low.
- Optional large lift and lower levers allow easy, one-handed control, even with gloves.
- Linked suspension castor wheels ensure highest possible truck stability.
- The spacious platform of the NPP20N3R, with suspension for a comfortable ride, is easy to get on and off, and also offers good ground clearance.
- The NPP20N3E is equipped with lifting forks (730 mm height) that offer an ergonomic position for loading and unloading items with minimal physical strain.
- Patented 4-point Friction Force suspension on NPP12N2D double pallet handler ensures constant drive wheel pressure on uneven surfaces, for greater stability, traction and control of steering.
- Offset tiller arm on NPP12N2D double pallet handler allows operator to walk alongside and improves visibility.
- NPP12N2D has speed regulated lifting and a proportional valve for lowering in order to provide smooth and safe handling.

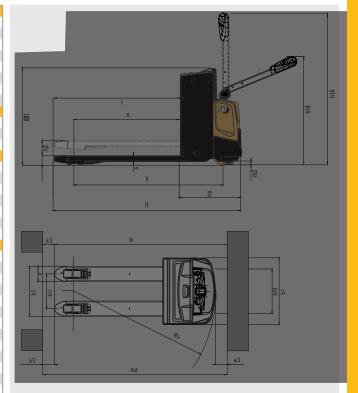
\*Excluding the NPP12N2D.



# **STANDARD EQUIPMENT AND OPTIONS**

|   | NPP12N2D | NPP16N3 | NPP18N3 | NPP20N3 | NPP20N3R | NPP20N3E |
|---|----------|---------|---------|---------|----------|----------|
| GENERAL   |          |         |         |         |          |          |
| LED battery discharge indicator, no hour meter  | _        | •       | •       | •       | •        | •        |
| Micro-computer incl. hour meter and battery indicator with cut out                                      | •        | _       | _       | -       | _        | _        |
| PIN code login 99 codes   | 0        | _       | _       | -       | _        | -        |
| PIN code login 4 codes  | _        | 0       | 0       | 0       | 0        | 0        |
| Offset tiller arm   | •        | _       | _       | _       | _        | _        |
| Chill store design, down to -10°C, with rust-protected axles  | •        | _       | _       | _       | _        | _        |
| Speed regulated lifting and proportional valve for lowering, controlled by rocker switch on tiller head | •        | _       | _       | _       | _        | -        |
| Electric on/off valve for lifting and lowering, controlled by rocker switch on tiller head              | _        | •       | •       | •       | •        | •        |
| Polyurethane drive wheel or rubber  | •        | _       | _       | _       | _        | _        |
| Initial lift  | •        | _       | _       | _       | _        | _        |
| Single or tandem load wheels Polyurethane   | •        | •       | •       | •       | •        | •        |
| Li-ion batteries  | 0        | 0       | 0       | 0       | 0        | 0        |
| ENVIRONMENT   |          |         |         |         |          |          |
| Cold store design, 0°C to -35°C (NPP12N2D, 0°C to -30°C)  | 0        | 0       | 0       | 0       | 0        | 0        |
| Hot operating condition modification, >30C°   | _        | 0       | 0       | 0       | 0        | 0        |
| DRIVE AND LIFT CONTROLS   |          |         |         |         |          |          |
| Tiller up drive   | 0        | •       | •       | •       | •        | •        |
| WHEEL OPTIONS   |          |         |         |         |          |          |
| Polyurethane traction and load wheels   | •        | •       | •       | •       | •        | •        |
| Power friction traction wheel   | 0        | 0       | 0       | 0       | 0        | 0        |
| Tandem Polyurethane load wheels   | •        | 0       | •       | •       | •        | •        |
| Single Polyurethane load wheels   | •        | 0       | •       | •       | •        | •        |
| Non-marking drive wheel   | 0        | _       | _       | _       | _        | _        |
| Anti-static drive wheel   | 0        | _       | _       | _       | _        | _        |
| OTHER OPTIONS   |          |         |         |         |          |          |
| Rubber foot protection  | 0        | _       | _       | _       | _        | _        |
| Diselectric band  | 0        | _       | _       | _       | _        | _        |
| Key switch  | •        | •       | •       | •       | •        | •        |
| Capacity 2000kg on straddles  | 0        | _       | _       | _       | _        | _        |
| Piezo buzzer instead of standard horn   | 0        | _       | _       | _       | _        | _        |
| Load backrest   | 0        | 0       | 0       | 0       | 0        | 0        |
| Pallet entry and exit rollers   | _        | 0       | 0       | 0       | 0        | 0        |
| Special RAL colour  | 0        | 0       | 0       | 0       | 0        | 0        |
| Inbuilt charger 30A   | 0        | 0       | 0       | 0       | 0        | 0        |
| Sideways battery change, 250Ah and 375Ah battery only   |          | _       | 0       | 0       | 0        | _        |
| Battery changing device   | _        | _       | 0       | 0       | 0        | _        |
| Accessory rack  | _        | 0       | 0       | 0       | 0        | 0        |
| Working light   | _        | 0       | 0       | 0       | 0        | 0        |
| Multi function display  | 0        | _       | _       | _       | _        | _        |
| Battery creep   | 0        | _       | _       | _       | _        | _        |
| Battery level audible warning   | 0        | _       | _       | _       | _        | _        |
| Service alarm   | 0        | _       | _       | _       | _        | _        |
| Automatic log off   | 0        | _       | _       | _       | _        | _        |
| Revert to low speed at log off  | 0        | _       | _       | _       | _        | _        |
| nature to to 1 appear at region   |          |         |         |         |          |          |

|             | Characteristics   |       |         |                 |                            |
|-------------|---|-------|---------|-----------------|----------------------------|
| 1.1         | Characteristics Manufacturer  |       |         | Cat Lift Trucks | Cat Lift Tours             |
| 1.1         | Manufacturer's model designation  |       |         | NPP16N3         | Cat Lift Trucks<br>NPP18N3 |
|             | •   |       |         |                 |                            |
| 1.3         | Power source  |       |         | Battery         | Battery                    |
| 1.4         | Operator type   | _     | (1)     | Pedestrian      | Pedestrian                 |
| 1.5         | Load capacity   | 0     | (kg)    | 1600            | 1800                       |
| 1.6         | Load centre distance  | С     | (mm)    | 600             | 600                        |
| 1.8         | Load wheel axle to fork face (forks lowered)  | Х     | (mm)    | 960             | 960                        |
| 1.9         | Wheelbase   | У     | (mm)    | 1360            | 1425                       |
| 2.0         | Weight  |       |         |                 |                            |
| 2.1b        | Truck weight without load, with maximum battery weight  |       | kg      | 430             | 500                        |
| 2.2         | Axle loadings with nominal load & maximum battery weight, drive / load side                                     |       | kg      | 745 / 1290      | 805 / 1495                 |
| 2.3         | Axle loadings without load & with maximum battery weight, drive / load side                                     |       | kg      | 340 / 90        | 380 / 120                  |
| 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                  |
| 3.2         | Tyre dimensions, drive side   |       | (mm)    | 230 x 70        | 230 x 70                   |
| 3.3         | Tyre dimensions, load side  |       | (mm)    | 85 x 90         | 85 x 75                    |
| 3.4         | Castor wheel dimensions (diameter x width)  |       | (mm)    | 100 x 40        | 100 x 40                   |
| 3.5         | Number of wheels, load / drive side (x = driven)  |       | ,       | 2 + 1x / 2      | 2+1x/4                     |
| 3.6         | Track width (centre of tyres), drive side   | b10   | (mm)    | 480             | 480                        |
| 3.7         | Track width (centre of tyres), load side  | b10   | (mm)    | 375             | 375                        |
| 4.0         | Dimensions  | 211   | ()      | 3/3             | 3/3                        |
| 4.U<br>4.2a | DIMENSIONS Height   | h1    | (mm)    |                 |                            |
|             | · ·   | h2    | (mm)    |                 |                            |
| 4.3         | Free lift   | h3    |         | 135             | 135                        |
| 4.4         | Lift height   |       | (mm)    | 135             | 135                        |
| 4.5         | Height with mast extended   | h4    | (mm)    |                 |                            |
| 4.6         | Initial lift  | h5    | (mm)    |                 |                            |
| 4.8         | Seat or stand height  | h7    | (mm)    | •               | -                          |
| 4.9         | Height of tiller arm / steering console (min/max)   | h14   | (mm)    | 865 / 1420      | 865 / 1420                 |
| 4.15        | Fork height, fully lowered  | h13   | (mm)    | 85              | 85                         |
| 4.19        | Overall length  | l1    | (mm)    | 1650            | 1710                       |
| 4.20        | Length to fork face   | 12    | (mm)    | 500             | 560                        |
| 4.21        | Overall width   | b1/b2 | (mm)    | 720             | 720                        |
| 4.22        | Fork dimensions (thickness, width, length)  | s/e/I | (mm)    | 55 / 165 / 1150 | 55 / 165 / 1150            |
| 4.25        | Outside width over forks (minimum / maximum)  | b5    | (mm)    | 540             | 540                        |
| 4.32        | Ground clearance at centre of wheelbase, (forks lowered)  | m2    | (mm)    | 30              | 30                         |
| 4.33c       | Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down                         | Ast   | (mm)    | 2339            | 2475                       |
| 4.34a       | Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise   | Ast   | (mm)    | 2000            | 20                         |
| 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)    | 2176            | 2281                       |
| 4.35        | Turning radius  | Wa    | (mm)    | 1510            | 1551                       |
| 4.35<br>5.0 | Performance   | vva   | (11111) | 1310            | 1001                       |
| 5.0<br>5.1  | Travel speed, with / without load   |       | km / h  | 6.0 / 6.0       | 6.0 / 6.0                  |
|             | • •   |       | m/s     |                 |                            |
| 5.2         | Lifting speed, with / without load  |       |         | 0.035 / 0.045   | 0.030 / 0.035              |
| 5.3         | Lowering speed, with / without load   |       | m/s     | 0.05 / 0.05     | 0.06 / 0.042               |
| 5.7         | Gradeability, with / without load   |       | %       | 10.0 / 20.0     | 10.0 / 20.0                |
| 5.9         | Acceleration time (10 metres) with / without load   |       | S       | F1 .            |                            |
| 5.10        | Service brakes (mechanical / hydraulic / electric / pneumatic)  |       |         | Electric        | Electric                   |
| 6.0         | Electric motors   |       | 114     |                 |                            |
| 6.1         | Drive motor capacity (60 min. short duty)   |       | kW      | 1.0             | 1.0                        |
| 6.2         | Lift motor output at 15% duty factor  |       | kW      | 0.8             | 0.8                        |
| 6.3         | Battery to DIN  |       |         |                 |                            |
| 6.4         | Battery voltage/capacity at 5-hour discharge  |       | V / Ah  | 24 / 150        | 24 / 250                   |
| 6.5         | Battery weight  |       | kg      | 150             | 210                        |
| 6.6a        | Energy consumption according to EN16796   | k'    | Wh/h    | 0.23            | 0.26                       |
| 3.0         | Miscellaneous   |       |         |                 |                            |
| 3.1         | Type of drive control   |       |         | Stepless        | Stepless                   |
| 10.7        | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ          |       | dB (A)  |                 |                            |
|             | 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)  | 62 / 69 / 0     | 62 / 69 / 0                |
|             | Whole-body vibration (EN 13 059:2002)   |       | 4       | 52,0070         | 327 007 0                  |
|             | Hand-arm vibration (EN 13 059:2002)   |       |         | < 2.5           | < 2.5                      |
| . 0.7.0     | Hand diff stateon (Ers 10 000.2002)   |       |         | ` 2.0           | · 2.0                      |



#### NPP16/18/20N3

Ast = Wa-x+I6+200

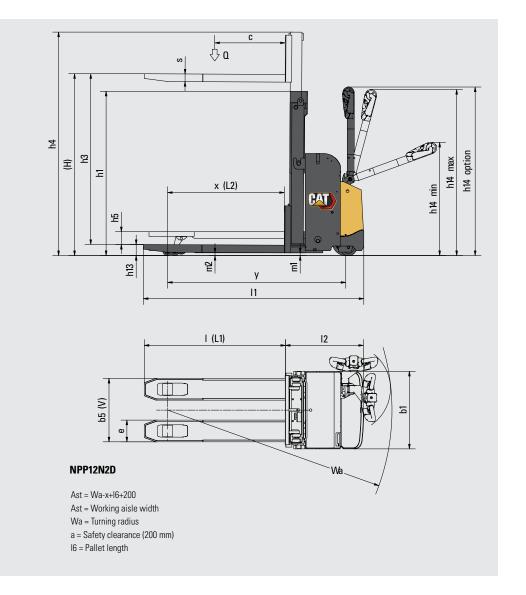
Ast = Working aisle width

Wa = Turning radius

a = Safety clearance (200 mm)

I6 = Pallet length

|        | Characteristics   |       |        |                 |
|--------|---|-------|--------|-----------------|
| 1.1    | Manufacturer  |       |        | Cat Lift Trucks |
| 1.2    | Manufacturer's model designation  |       |        | NPP12N2D        |
| 1.3    | Power source  |       |        | Battery         |
| 1.4    | Operator type   |       |        | Pedestrian      |
| 1.5    | Load capacity   | Q     | (kg)   | 1250            |
| 1.6    | Load centre distance  | С     | (mm)   | 600             |
| 1.8    | Load wheel axle to fork face (forks lowered)  | х     | (mm)   | 990             |
| 1.9    | Wheelbase   | у     | (mm)   | 1510            |
| 2.0    | Weight  |       |        | 1010            |
| 2.1b   | Truck weight without load, with maximum battery weight  |       | kg     | 800             |
| 2.2    | Axle loadings with nominal load & maximum battery weight, drive / load side                                     |       | kg     | 990 / 1410      |
| 2.3    | Axle loadings without load & with maximum battery weight, drive / load side                                     |       | kg     | 590 / 210       |
| 3.0    | 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)   | 230 x 70        |
| 3.3    | Tyre dimensions, load side  |       | (mm)   | 85 x 99         |
| 3.4    | Castor wheel dimensions (diameter x width)  |       | (mm)   | 140 x 60        |
| 3.5    | Number of wheels, load / drive side (x = driven)  |       |        | 1 x + 1 /4      |
| 3.6    | Track width (centre of tyres), drive side   | b10   | (mm)   | 382             |
| 3.7    | Track width (centre of tyres), load side  | b11   | (mm)   | 355             |
| 4.0    | Dimensions  |       |        |                 |
| 4.2a   | Height with mast lowered  | h1    | (mm)   | 1400 / 1550     |
| 4.3    | Free lift   | h2    | (mm)   |                 |
| 4.4    | Lift height   | h3    | (mm)   | 1700 / 2000     |
| 4.5    | Height with mast extended   | h4    | (mm)   | 2145 / 2445     |
| 4.6    | Initial lift  | h5    | (mm)   | 120             |
| 4.8    | Seat or stand height  | h7    | (mm)   |                 |
| 4.9    | Height of tiller arm / steering console (min/max)   | h14   | (mm)   | 913 / 1368      |
| 4.15   | Fork height, fully lowered  | h13   | (mm)   | 90              |
| 4.19   | Overall length  | l1    | (mm)   | 1864            |
| 4.20   | Length to fork face   | 12    | (mm)   | 664             |
| 4.21   | Overall width   | b1/b2 | (mm)   | 660             |
| 4.22   | Fork dimensions (thickness, width, length)  | s/e/I | (mm)   | 65 / 185 / 1200 |
| 4.25   | Outside width over forks (minimum / maximum)  | b5    | (mm)   | 540             |
| 4.32   | Ground clearance at centre of wheelbase, (forks lowered)  | m2    | (mm)   | 25              |
| 4.33c  | Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down                         | Ast   | (mm)   | NA              |
| 4.34a  | Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise   | Ast   | (mm)   | 2532            |
| 4.34b  | Working aisle width (Ast3) with 800 x 1200 mm pallets, load lengthwise  | Ast3  | (mm)   | 2290            |
| 4.34c  | Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down                         | Ast   | (mm)   |                 |
| 4.35   | Turning radius  | Wa    | (mm)   | 1880            |
| 5.0    | Performance   |       |        |                 |
| 5.1    | Travel speed, with / without load   |       | km/h   | 5.6 /6          |
| 5.2    | Lifting speed, with / without load  |       | m/s    | 0.10 / 0.20     |
| 5.3    | Lowering speed, with / without load   |       | m/s    | 0.12 / 0.12     |
| 5.7    | Gradeability, with / without load   |       | %      | 6 / 19          |
| 5.9    | Acceleration time (10 metres) with / without load   |       | S      | 7.94 / 6.76     |
| 5.10   | Service brakes (mechanical / hydraulic / electric / pneumatic)  |       |        | Electric        |
| 6.0    | Electric motors   |       |        |                 |
| 6.1    | Drive motor capacity (60 min. short duty)   |       | kW     | 1.3             |
| 6.2    | Lift motor output at 15% duty factor  |       | kW     | 2.35            |
| 6.3    | Battery to DIN  |       |        | no              |
| 6.4    | Battery voltage/capacity at 5-hour discharge  |       | V / Ah | 24 / 150 - 230  |
| 6.5    | Battery weight  |       | kg     | 140 - 215       |
| 8.0    | Miscellaneous   |       |        |                 |
| 8.1    | Type of drive control   |       |        | Stepless        |
| 10.7   | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ          |       | dB (A) | 74.6 +/- 0.7    |
| 10.7.1 | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ |       | dB (A) |                 |
| 10.7.2 | Whole-body vibration (EN 13 059:2002)   |       |        |                 |
| 10.7.3 | Hand-arm vibration (EN 13 059:2002)   |       |        |                 |
|        |   |       |        |                 |



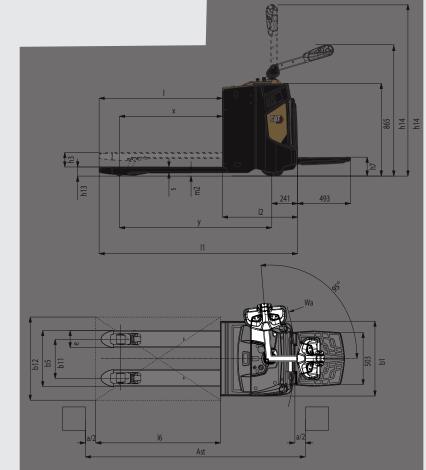
### **Mast Performance and Capacity**

- h1 Height with mast lowered
- h2 Standard free lift
- h3 Lift height
- h4 Height with mast raised
- h5 Full free lift
- Q Lifting capacity, rated load
- c Load centre (distance)

|                             | NPP12N2        | D         |              |
|-----------------------------|----------------|-----------|--------------|
| Mast Type                   | h3 + h13<br>mm | h1*<br>mm | h2+h13<br>mm |
| Duplex<br>Without Free Lift | 1790           | 1400      | NA           |
| (DS)                        | 2090           | 1550      | NA           |

<sup>\*</sup> h1 closed mast height includes polycarbonate finger protection. Mast height excl. Finger protection is 1343mm / 1493mm

|        | Characteristics   |       |        |                   |
|--------|---|-------|--------|-------------------|
| 1.1    | Manufacturer  |       |        | Cat Lift Trucks   |
| 1.2    | Manufacturer's model designation  |       |        | NPP20N3R          |
| 1.3    | Power source  |       |        | Battery           |
| 1.4    | Operator type   |       |        | Pedestrian / Stan |
| 1.5    | Load capacity   | Q     | (kg)   | 2000              |
| 1.6    | Load centre distance  | С     | (mm)   | 600               |
| 1.8    | Load wheel axle to fork face (forks lowered)  | х     | (mm)   | 960               |
| 1.9    | Wheelbase   | у     | (mm)   | 1420              |
| 2.0    | Weight  |       |        |                   |
| 2.1b   | Truck weight without load, with maximum battery weight  |       | kg     | 640               |
| 2.2    | Axle loadings with nominal load & maximum battery weight, drive / load side                                     |       | kg     | 950 / 1710        |
| 2.3    | Axle loadings without load & with maximum battery weight, drive / load side                                     |       | kg     | 505 / 135         |
| 3.0    | 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)   | 230 x 70          |
| 3.3    | Tyre dimensions, load side  |       | (mm)   | 85 x 75           |
| 3.4    | Castor wheel dimensions (diameter x width)  |       | (mm)   | 125 x 55          |
| 3.5    | Number of wheels, load / drive side (x = driven)  |       |        | 2+1x/4            |
| 3.6    | Track width (centre of tyres), drive side   | b10   | (mm)   | 480               |
| 3.7    | Track width (centre of tyres), load side  | b11   | (mm)   | 375               |
| 4.0    | Dimensions  |       |        |                   |
| 4.4    | Lift height   | h3    | (mm)   | 135               |
| 4.6    | Initial lift  | h5    | (mm)   | -                 |
| 4.8    | Seat or stand height  | h7    | (mm)   |                   |
| 4.9    | Height of tiller arm / steering console (min/max)   | h14   | (mm)   | 1155 / 1550       |
| 4.15   | Fork height, fully lowered  | h13   | (mm)   | 85                |
| 4.19   | Overall length  | l1    | (mm)   | 1850 / 2345       |
| 4.20   | Length to fork face   | 12    | (mm)   | 700 / 1195        |
| 4.21   | Overall width   | b1/b2 | (mm)   | 720               |
| 4.22   | Fork dimensions (thickness, width, length)  | s/e/I | (mm)   | 50 / 165 / 115    |
| 4.25   | Outside width over forks (minimum / maximum)  | b5    | (mm)   | 540               |
| 4.32   | Ground clearance at centre of wheelbase, (forks lowered)  | m2    | (mm)   | 30                |
| 4.33c  | Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down                         | Ast   | (mm)   | 2504 / 2984       |
| 4.34c  | Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down                         | Ast   | (mm)   | 2416 / 2896       |
| 4.35   | Turning radius  | Wa    | (mm)   | 1680 / 2160       |
| 5.0    | Performance   |       |        |                   |
| 5.1    | Travel speed, with / without load   |       | km / h | 6.0 / 6.0         |
| 5.2    | Lifting speed, with / without load  |       | m/s    | 0.04 / 0.04       |
| 5.3    | Lowering speed, with / without load   |       | m/s    | 0.05 / 0.06       |
| 5.7    | Gradeability, with / without load   |       | %      | 9.0 / 20.0        |
| 5.10   | Service brakes (mechanical / hydraulic / electric / pneumatic)  |       |        | Electric          |
| 6.0    | Electric motors   |       |        |                   |
| 6.1    | Drive motor capacity (60 min. short duty)   |       | kW     | 1.0               |
| 6.2    | Lift motor output at 15% duty factor  |       | kW     | 1.2               |
| 6.4    | Battery voltage/capacity at 5-hour discharge  |       | V / Ah | 24 / 250 - 375    |
| 6.5    | Battery weight  |       | kg     | 212-294           |
| 8.0    | Miscellaneous   |       |        |                   |
| 8.1    | Type of drive control   |       |        | Stepless          |
| 10.7   | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ          |       | dB (A) | 60                |
|        | 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) | 63/65             |
|        | Whole-body vibration (EN 13 059:2002)   |       |        | 0.9               |
| 10.7.3 | Hand-arm vibration (EN 13 059:2002)   |       |        | < 2.5             |



#### NPP20N3R: with folding platform

Ast = Wa-x+I6+200

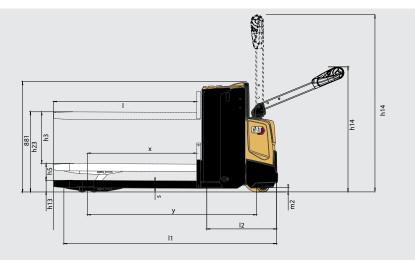
Ast = Working aisle width

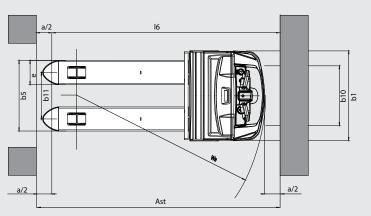
Wa = Turning radius

a = Safety clearance (200 mm)

16 = Pallet length

|               | Characteristics   |       |          |                        |
|---------------|---|-------|----------|------------------------|
| .1            | Manufacturer  |       |          | Cat Lift Trucks        |
| .2            | Manufacturer's model designation  |       |          | NPP20N3E               |
| .3            | Power source  |       |          | Battery                |
| .4            | Operator type   |       |          | Pedestrian             |
| 1.5           | Load capacity   | Q     | (kg)     | 2000 / 700             |
| 1.6           | Load centre distance  | С     | (mm)     | 600                    |
| 1.8           | Load wheel axle to fork face (forks lowered)  | х     | (mm)     | 890                    |
| 1.9           | Wheelbase   | у     | (mm)     | 1425                   |
| 2.0           | Weight  |       |          | 1120                   |
| 2.1b          | Truck weight without load, with maximum battery weight  |       | kg       | 585                    |
| 2.2           | Axle loadings with nominal load & maximum battery weight, drive / load side   |       | kg       | 435 / 150              |
| 2.3           | Axle loadings without load & with maximum battery weight, drive / load side   |       | kg       | 420 / 160              |
| 3.0           | Wheels, Drive Train   |       | 3        | 1207 100               |
| 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)     | 230 x 70               |
| 3.3           | Tyre dimensions, load side  |       | (mm)     | 85 x 75                |
| 3.4           | Castor wheel dimensions (diameter x width)  |       | (mm)     | 100 x 40               |
| 3.5           | Number of wheels, load / drive side (x = driven)  |       | , .,,    | 2+1x/4                 |
| 3.6           | Track width (centre of tyres), drive side   | b10   | (mm)     | 480                    |
| 3.7           | Track width (centre of tyres), load side  | b11   | (mm)     | 375                    |
| 4.0           | Dimensions  |       | ,        | 0,0                    |
| 4.4           | Lift height   | h3    | (mm)     | 135 / 645              |
| 4.6           | Initial lift  | h5    | (mm)     | 1337 043               |
| 4.8           | Seat or stand height  | h7    | (mm)     | _                      |
| 4.9           | Height of tiller arm / steering console (min/max)   | h14   | (mm)     | 865 / 1420             |
| 4.15          | Fork height, fully lowered  | h13   | (mm)     | 85                     |
| 4.19          | Overall length  | 11    | (mm)     | 1780                   |
| 4.20          | Length to fork face   | 12    | (mm)     | 630                    |
| 4.21          | Overall width   | b1/b2 | (mm)     | 720                    |
| 4.21          | Fork dimensions (thickness, width, length)  | s/e/l | (mm)     | 59 / 184 / 1150        |
| 4.25          | Outside width over forks (minimum / maximum)  | b5    | (mm)     | 570                    |
| 4.32          | Ground clearance at centre of wheelbase, (forks lowered)  | m2    | (mm)     | 30                     |
| 4.32<br>4.33c | Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down   | Ast   | (mm)     | 2365                   |
| 4.34c         | Working alse width (Ast) with 1000 x 1200 min pallets, load lengthwise, platform up/down  Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down | Ast   | (mm)     | 2275                   |
|               |   | Wa    | (mm)     |                        |
| 4.35<br>5.0   | Turning radius Performance  | vva   | (111111) | 1560                   |
| 5.0<br>5.1    | Travel speed, with / without load   |       | km/h     | 6.0 / 6.0              |
| 5.2           |   |       | m/s      |                        |
| 5.2<br>5.3    | Lifting speed, with / without load  |       | m/s      | 0.11 / 0.14            |
|               | Lowering speed, with / without load   |       | %        | 0.13 / 0.12            |
| 5.7           | Gradeability, with / without load   |       | /0       | 9.0 / 20.0<br>Electric |
| 5.10          | Service brakes (mechanical / hydraulic / electric / pneumatic)  |       |          | Electric               |
| 3.0           | Electric motors  Drive mater expectity (60 min. short duty)   |       | kW       | 10                     |
| 5.1           | Drive motor capacity (60 min. short duty)   |       | kW       | 1.0                    |
| 5.2           | Lift motor output at 15% duty factor  |       | KVV      | 1.2                    |
| 6.3           | Battery to DIN  |       | V / Ah   | 04 /450                |
| 6.4           | Battery voltage/capacity at 5-hour discharge  |       |          | 24 / 150               |
| 5.5           | Battery weight  |       | kg       | 151                    |
| 3.0           | Miscellaneous   |       |          |                        |
| 3.1           | Type of drive control   |       | ID (A)   | Stepless               |
| 10.7          | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ  |       | dB (A)   | 64                     |
| 10.7.1        | Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871, drive/lift/idle LpAZ   |       | dB (A)   | 66/70                  |
|               | Whole-body vibration (EN 13 059:2002)   |       |          |                        |
| 10.7.3        | Hand-arm vibration (EN 13 059:2002)   |       |          | < 2.5                  |





#### NPP20N3E: with lifting forks

Ast = Wa-x+I6+200

Ast = Working aisle width
Wa = Turning radius

a = Safety clearance (200 mm)

16 = Pallet length

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

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









