

# **R 20 Electric Forklift Trucks.**

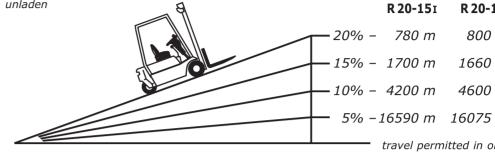
In accordance with VDI guidelines 2198, this specification applies to the standard model only. Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

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Bits         Topeser supprive - electric, deset, port, deset, and d		1.1	Manufacturer		STILL	STILL	STILL	
13         Danaghasis         21,000         250         2540         2445           42.1         Weight         4000         2520         2240         2445           42.1         Weight         40         3556         3740         3965           22.1         Acte loading stated front         40         3556         3740         5755           23.1         Acte loading stated front         49         3504         570         575           31.1         Tres - note (r), sperishic (D, powerbare (P)         45420         1450         1450           33.1         Tres - note (r), sperishic (D, powerbare (P)         4544         571         571         571           33.1         Tres - note (r = new whet)         2 </th <th>ics</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	ics							
13         Danaghasis         21,000         250         2540         2445           42.1         Weight         4000         2520         2240         2445           42.1         Weight         40         3556         3740         3965           22.1         Acte loading stated front         40         3556         3740         5755           23.1         Acte loading stated front         49         3504         570         575           31.1         Tres - note (r), sperishic (D, powerbare (P)         45420         1450         1450           33.1         Tres - note (r), sperishic (D, powerbare (P)         4544         571         571         571           33.1         Tres - note (r = new whet)         2 </td <th>rist</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	rist							
13         Danaghasis         21,000         250         2540         2445           42.1         Weight         4000         2520         2240         2445           42.1         Weight         40         3556         3740         3965           22.1         Acte loading stated front         40         3556         3740         5755           23.1         Acte loading stated front         49         3504         570         575           31.1         Tres - note (r), sperishic (D, powerbare (P)         45420         1450         1450           33.1         Tres - note (r), sperishic (D, powerbare (P)         4544         571         571         571           33.1         Tres - note (r = new whet)         2 </td <td>cter  </td> <td></td> <td></td> <td>O(l(a))</td> <td></td> <td></td> <td></td> <td></td>	cter			O(l(a))				
13         Danaghasis         21,000         250         2540         2445           42.1         Weight         4000         2520         2240         2445           42.1         Weight         40         3556         3740         3965           22.1         Acte loading stated front         40         3556         3740         5755           23.1         Acte loading stated front         49         3504         570         575           31.1         Tres - note (r), sperishic (D, powerbare (P)         45420         1450         1450           33.1         Tres - note (r), sperishic (D, powerbare (P)         4544         571         571         571           33.1         Tres - note (r = new whet)         2 </th <th>ara</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	ara							
10         Wheebase         \$\u03e9\$         1232         1340         1445           22.1         Akale loadings laden front         kg         366         3740         3865           22.1         Akale loadings laden front         kg         386         3750         3751           22.1         Akale loadings laden front         kg         380         3520         3753           32.1         Free scale from strained front         kg         380         3520         3515           33.1         Trye scale - front         18 x 7-8 (16 PM)         18 x 7-8 (16 PM)         18 x 7-8 (16 PM)           35.1         Wheeds - number front (x = drive wheet)         2         2         2         2           35.1         Wheeds - number from (x = drive wheet)         0.1 (rm)         32.0         32.2         7.7         7         7           35.1         Wheeds - number from (x = drive wheet)         0.1 (rm)         32.0	- Š							
B         2.1         Weight         kp         2760         2810         2940           2.2.1         Akde bading steden not:         kg         506         57740         3055           2.3         Akde bading struden front:         kg         5100         1360         1425           2.3         Akde bading struden front:         kg         1310         1360         1425           3.3         Mole bading struden front:         kg         1310         1560         1353           3.3         Tyre star-:         non-thermal strudent front:         kg         1310         1360         1425           3.3         Tyre star-:         non-thermal strudent front:         kg         135         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477-56         158         477         158         158         477         158         159         159         159								
gg         2.3.1         Axie laading subden near         kg         5310         1350         1350         1350           3.3         Axie laading subden Torit         kg         1310         1350	S							
gg         2.3.1         Axie laading subden near         kg         5310         1350         1350         1350           3.3         Axie laading subden Torit         kg         1310         1350	, Yre		5					
S1.         Tyre - nbke (V), speridetic (S), promulic (L), polyurtham (PS)         SE/L         SE/L <th>s, t</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	s, t							
S1.         Tyre - nbke (V), speridetic (S), promulic (L), polyurtham (PS)         SE/L         SE/L <th>ee</th> <th></th> <th></th> <th></th> <th>1310</th> <th>1360</th> <th>1425</th> <th></th>	ee				1310	1360	1425	
By Tree Size - Front         18 x 7 - 8 (16 PR)           3.3         Type size - front         15 x 4 / - 8 (12 PR)         15 x 4 / - 8 (12 PR)         15 x 4 / - 8 (12 PR)           3.5.1         Wheels - number front (x - drive wheel)         2         2         2           3.5.1         Track width - front         0 / (rmn)         922         932         932           3.6         Track width - front         0 / (rmn)         922         932         932           3.6         Track width - front         0 / (rmn)         922         932         932           4.1         The angle, max/inck carriage backmards         diagrees         3         3         3           4.1         The angle, max/inck carriage backmards         diagrees         3         3         3           4.3         Free Iff         0 / (rmn)         1500         1500         1500           4.3         Height, max/insk carriage backmards         h (rmn)         92430         3430           4.4         Height to top of overhead guard (cabin)         h (rmn)         92430         1600         1400           4.3         Keight to top of overhead guard (cabin)         h (rmn)         18	Ň	2.3.1	Axle loadings unladen rear	kg	1450	1450	1515	
3.7         Track width - rear         b; (mm)         170         170         170         170           4.1         Tik andje, mast/fork carriage backwards         degrees         7         7         7           4.2         Closed height         http: (mn)         150         150         150           4.3         Free lift         http: (mn)         150         150         150           4.4         Lift height         http: (mn)         1400         4400         4000           4.4         Lift height         http: (mn)         2430         2433         2433           4.4         Lift height         http: (mn)         2430         2432         2433           4.4         Lift height         http: (mn)         2430         2432         2432           4.5         Height not go for overhead guard (tabin)         http: (mn)         1980         460         460           4.21         Overall leight         http: (mn)         2555         2673         2782           4.22         Couling height         http: (mn)         206         100         115         100/1115         100/1115           4.21         Core indigar with         not caningar with         not caningar with		3.1	Tyres – rubber (V), superelastic (SE), pneumatic (L), polyurethane (PE)		SE/L	SE/L	SE/L	
3.7         Track width - rear         b; (mm)         170         170         170         170           4.1         Tik andje, mast/fork carriage backwards         degrees         7         7         7           4.2         Closed height         http: (mn)         150         150         150           4.3         Free lift         http: (mn)         150         150         150           4.4         Lift height         http: (mn)         1400         4400         4000           4.4         Lift height         http: (mn)         2430         2433         2433           4.4         Lift height         http: (mn)         2430         2432         2433           4.4         Lift height         http: (mn)         2430         2432         2432           4.5         Height not go for overhead guard (tabin)         http: (mn)         1980         460         460           4.21         Overall leight         http: (mn)         2555         2673         2782           4.22         Couling height         http: (mn)         206         100         115         100/1115         100/1115           4.21         Core indigar with         not caningar with         not caningar with	res				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
3.7         Track width - rear         b; (mm)         170         170         170         170           4.1         Tik andje, mast/fork carriage backwards         degrees         7         7         7           4.2         Closed height         http: (mn)         150         150         150           4.3         Free lift         http: (mn)         150         150         150           4.4         Lift height         http: (mn)         1400         4400         4000           4.4         Lift height         http: (mn)         2430         2433         2433           4.4         Lift height         http: (mn)         2430         2432         2433           4.4         Lift height         http: (mn)         2430         2432         2432           4.5         Height not go for overhead guard (tabin)         http: (mn)         1980         460         460           4.21         Overall leight         http: (mn)         2555         2673         2782           4.22         Couling height         http: (mn)         206         100         115         100/1115         100/1115           4.21         Core indigar with         not caningar with         not caningar with	ţ							
3.7         Track width - rear         b; (mm)         170         170         170         170           4.1         Tik andje, mast/fork carriage backwards         degrees         7         7         7           4.2         Closed height         http: (mn)         150         150         150           4.3         Free lift         http: (mn)         150         150         150           4.4         Lift height         http: (mn)         1400         4400         4000           4.4         Lift height         http: (mn)         2430         2433         2433           4.4         Lift height         http: (mn)         2430         2432         2433           4.4         Lift height         http: (mn)         2430         2432         2432           4.5         Height not go for overhead guard (tabin)         http: (mn)         1980         460         460           4.21         Overall leight         http: (mn)         2555         2673         2782           4.22         Couling height         http: (mn)         206         100         115         100/1115         100/1115           4.21         Core indigar with         not caningar with         not caningar with	els							
3.7         Track width - rear         b; (mm)         170         170         170         170           4.1         Tik andje, mast/fork carriage backwards         degrees         7         7         7           4.2         Closed height         http: (mn)         150         150         150           4.3         Free lift         http: (mn)         150         150         150           4.4         Lift height         http: (mn)         1400         4400         4000           4.4         Lift height         http: (mn)         2430         2433         2433           4.4         Lift height         http: (mn)         2430         2432         2433           4.4         Lift height         http: (mn)         2430         2432         2432           4.5         Height not go for overhead guard (tabin)         http: (mn)         1980         460         460           4.21         Overall leight         http: (mn)         2555         2673         2782           4.22         Couling height         http: (mn)         206         100         115         100/1115         100/1115           4.21         Core indigar with         not caningar with         not caningar with	/ he			h (mana)				
91.1         The apple, mast/fork carriage backwords         degrees         3         3         3           4.1.1         The apple, mast/fork carriage backwords         degrees         7         7         7           4.2         Closed height         h <sub>1</sub> (nm)         150         150         150           4.3         Free Inf         h <sub>2</sub> (nm)         150         150         150           4.4         Lift height         h <sub>2</sub> (nm)         150         150         150           4.4         Lift height         h <sub>2</sub> (nm)         480         4400         4000         4000           4.5         Height         h <sub>2</sub> (nm)         1960         1960         1960         1960           4.8         Seat height         h <sub>1</sub> (nm)         1962         822         892         492           4.20         Coepling height         h <sub>1</sub> (nm)         1265         2673         2782         272           4.21         Coepling height         h <sub>1</sub> (nm)         135         1892         400         420         1200 Hilts         1000 Hilts	>							
egg         4.1.1         The arg(c, max/tork, carrige backwards         degrees         7         7         7           4.2.1         Closed height         h, (mn)         2200         2200         2200           4.3         Free lift.         h, (mn)         330         3330         3330           4.3         Lift height         h, (mn)         3400         3430         3430           4.5         Height, max raised         h, (mn)         14000         4080         4080           4.5         Height to top downhad guard (cabin)         h, (mn)         1600         19600         19600           4.21         Longhth for nof face of facks         (mn)         1600         4600         4600           4.22         Longhth for nof face of facks         (mn)         1080/1115         1080/1115         1080/1115           4.22         Longhth for nof face of facks         (mn)         1080         80         80           4.21         Fork kinkness         s (mn)         1060         1060         1060           4.22.1         Fork kinkness         s (mn)         100         10         10           4.22.1         Fork kinkness         s (mn)         90         980         980 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
4.2         Closed height         n, (mm)         2260         2260         2260           4.3         Free Iff.         h, (mm)         150         150         150           4.4         Lift height.         h, (mm)         430         3430         3430           4.5         Height.         to top of overhead guard (cabin)         h, (mm)         400         4000         4000           4.7         Height.         to top of overhead guard (cabin)         h, (mm)         1960         1960         1960           4.8         Seat height.         h, (mm)         460         460         460         460           4.9         Overall weight.         h, (mm)         2555         2673         2782           4.9         Overall weight.         h, (mm)         1080/1115         1080/1115         1080/1115           4.20         Length. the fort face of forks         h, (mm)         1080         80         80           4.22         Fork varinge to DIN 15172 - class / form A or B         150 II B         150 II B         150 II B         150 II B           4.23         Fork caringe to DIN 15172 - class / form A or B         150 II B         150 I B <th></th> <td></td> <td></td> <td>5</td> <td>-</td> <td></td> <td>-</td> <td></td>				5	-		-	
Free         H.         h. (mm)         150         150         150           4.3         Free         Ht height         h. (mm)         3430         3430         3430           4.5         Height, mast raied         h. (mm)         4980         4080         4080         4080           4.7         Height to top overhead guard (tabin)         h. (mm)         4990         1960         1960         1960           4.8         Seat height         h. (mm)         Mell         460         460         460           4.10         Overall length         h. (mm)         1675         1873         1982         2722           4.20         Length to front face of forks         // (mm)         1080/1115         10								
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set         Height, mask raised         n. (mm)         4000				· · · · ·				
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Form         4.12         Coupling height <i>h</i> , <i>m</i> (m)         460         460         460         460           4.20         Length to front face of forks <i>h</i> (mm)         1755         1873         1982           4.20         Length to front face of forks <i>h</i> (mm)         1080/1115         1080/1115         1080/1115           4.21         Fork thickness <i>s</i> (mm)         35         35         40           4.22         Fork thickness <i>s</i> (mm)         36         80         80           4.22         Fork tength <i>l</i> (mm)         800         800         800           4.22         Fork tength <i>l</i> (mm)         1080         100         110         10           4.23         Fork carriage width <i>b</i> (mm)         980         980         980         980           4.33         Ground clearance teneth mast, laden <i>m</i> , (mm)         100         110         110         110           4.34         Alse width for pallets 100 x 1200 wide <i>A<sub>w</sub></i> (mm)         3216         3324         3433           4.35         Outer turning radius <i>b</i> <sub>24</sub> (mm)         141         14         14           5.1         Speed						1960		
Bits         Overall length         I, (rmm)         2565         2673         2782           4.20         Length to front face of forks         b, (mm)         1080/1115         1080/1115         1080/1115           4.21         Overall with         b, (mm)         1080/1115         1080/1115         1080/1115           4.22         Fork thickness         s (mm)         35         35         40           4.22         Fork carings to DIN 15173 - class / form A or B         ISO II B         ISO II B         ISO II B           4.23         Fork carings evidth         b, (mm)         980         980         980           4.33         Ground clearance beneath mast, laden         m, (mm)         91         91         91           4.34         Sile width for pallets 1000 x1200 wide         A, (mm)         3002         3200         3309           4.34         Asile width for pallets 1000 x1200 wide         A, (mm)         101         110         110           4.35         Unter turning radius         B, (mm)         1415         1523         1627           4.35         Unter turning radius         M, (mm)         141         14         14           5.1         Speed unden         m/s         0.42 <t< td=""><th></th><td>4.8</td><td></td><td><i>h</i><sub>7</sub> (mm)</td><td></td><td></td><td></td><td></td></t<>		4.8		<i>h</i> <sub>7</sub> (mm)				
Big         4.20         Length to front face of forks         is (mm)         1765         1873         1982           4.21         Overall width         b, (mm)         1080/1115         1080/1115         1080/1115           4.22         Fork thickness         s (mm)         80         80         80           4.22         Fork kindshess         s (mm)         80         80         80           4.23         Fork carrage to DN 15173 - dass / form A or B         //(mm)         800         800         800           4.24         Fork carrage width         b_z (mm)         980         980         980         980           4.31         Ground clearance beneath mast, laden         m,z (mm)         100         110         110         100           4.33         Asle width for pallets 100 x 1200 wide         A_w (mm)         30216         3324         3333           4.35         Outer turning radius         b_y (mm)         -         -         -           5.1         Speed laden         m/h         14         14         14           5.2         Lift speed inden         m/s         0.6         0.6         0.6           5.3         Lowering speed laden         m/s         0.47 <th></th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
4.2.1         Pork width         0         80         80         80         80           4.2.3         Fork carriage to DN 15173 - class / form A or B         Iform 1         ISO II B         ISO II B         ISO II B           4.2.4         Fork carriage width         by (mm)         980         980         980           4.3.1         Ground clearance beneath mast, laden         m, (mm)         91         91         91           4.3.2         Ground clearance at centre of wheelbase         m, (mm)         3092         3200         3309           4.3.3         Aisle width for pallets 1000 x 1200 wide         A <sub>w</sub> (mm)         3216         3324         3433           4.3.5         Unter turning radius         W <sub>w</sub> (mm)         -         -         -           4.3.6         Inner turning radius         b <sub>W</sub> (mm)         -         -         -           5.1         Speed laden         m/h         16         16         16           5.2         Lift speed unladen         m/s         0.46         0.6         0.6           5.3         Lowering speed laden         m/s         0.47         0.47         0.47           5.4         Rated drawbar pull unden         N         2700         2700<	su							
4.2.1         Pork width         0         80         80         80         80           4.2.3         Fork carriage to DN 15173 - class / form A or B         Iform 1         ISO II B         ISO II B         ISO II B           4.2.4         Fork carriage width         by (mm)         980         980         980           4.3.1         Ground clearance beneath mast, laden         m, (mm)         91         91         91           4.3.2         Ground clearance at centre of wheelbase         m, (mm)         3092         3200         3309           4.3.3         Aisle width for pallets 1000 x 1200 wide         A <sub>w</sub> (mm)         3216         3324         3433           4.3.5         Unter turning radius         W <sub>w</sub> (mm)         -         -         -           4.3.6         Inner turning radius         b <sub>W</sub> (mm)         -         -         -           5.1         Speed laden         m/h         16         16         16           5.2         Lift speed unladen         m/s         0.46         0.6         0.6           5.3         Lowering speed laden         m/s         0.47         0.47         0.47           5.4         Rated drawbar pull unden         N         2700         2700<	l sio							
4.2.1         Pork width         0         80         80         80         80           4.2.3         Fork carriage to DN 15173 - class / form A or B         Iform 1         ISO II B         ISO II B         ISO II B           4.2.4         Fork carriage width         by (mm)         980         980         980           4.3.1         Ground clearance beneath mast, laden         m, (mm)         91         91         91           4.3.2         Ground clearance at centre of wheelbase         m, (mm)         3092         3200         3309           4.3.3         Aisle width for pallets 1000 x 1200 wide         A <sub>w</sub> (mm)         3216         3324         3433           4.3.5         Unter turning radius         W <sub>w</sub> (mm)         -         -         -           4.3.6         Inner turning radius         b <sub>W</sub> (mm)         -         -         -           5.1         Speed laden         m/h         16         16         16           5.2         Lift speed unladen         m/s         0.46         0.6         0.6           5.3         Lowering speed laden         m/s         0.47         0.47         0.47           5.4         Rated drawbar pull unden         N         2700         2700<	her							
4.2.2         Fork carriage to DIN 15/13 - class / form A or B         If OI IB         ISO II B         ISO II B         ISO II B         ISO II B           4.34         Fork carriage width         b; (mm)         980         980         980         980           4.31         Ground clearance beneath mast, laden         m; (mm)         91         91         91         91           4.32         Fork carriage width         m/m (mm)         91         91         91         91           4.33         Alse width for pallets 1000 x 1200 wide         A/m (mm)         3092         3200         3309           4.34         Alse width for pallets 1000 x 1200 wide         A/m (mm)         110         110         110           4.35         Outer turning radius         W/m (mm)         1415         11523         1627           4.35         Outer turning radius         W/m (mm)         141         14         14           5.1         Speed laden         km/h         16         16         16         16           5.2.1         Lift speed unladen         m/s         0.47         0.47         0.47         0.47           5.3.1         Lowering speed unladen         m/s         0.66         0.6         0.6	<u> </u>							
4.23         Fork carriage to DN 15173 - dass / form A or B         ISO II B           4.24         Fork carriage width         br (mm)         980         980         980         980           4.31         Ground clearance ta centre of wheelbase         m; (mm)         91         91         91         91           4.32         Ground clearance at centre of wheelbase         m; (mm)         3092         3200         3309           4.34         Aise width for pallets 800 x 1200 long         Au (mm)         3216         3324         3433           4.35         Outer turning radius         br, (mn)         141         14         14           5.1         Speed laden         km/h         16         16         16           5.2.1         Lift speed unladen         m/s         0.42         0.42         0.42           5.3         Lowering speed laden         m/s         0.47         0.47         0.47           5.4         Lot speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull unladen         N         2700         2700         2700				1				
4.24         Fork carriage width         b, (mm)         980         980         980           4.31         Ground clearance beneath mast, laden         m, (mm)         91         91         91           4.32         Ground clearance at centre of wheelbase         m, (mm)         301         100         110         110           4.33         Aise width for pallets 800 x 1200 long         A <sub>4</sub> (mm)         3216         3324         3433           4.35         Outer turning radius         b <sub>1</sub> /(mn)         -         -         -           4.36         Inner turning radius         b <sub>2</sub> /(mn)         -         -         -           5.1         Speed unladen         m/s         0.42         0.42         0.42           5.1.1         Speed unladen         m/s         0.6         0.6         0.6           5.2.1         Lift speed unladen         m/s         0.47         0.47         0.47           5.3.1         Lowering speed unladen         m/s         0.6         0.6         0.6           5.3.1         Lowering speed unladen         N         2700         2700         2700           5.5         Rated drawbar pull unladen         N         7750         7750         7550				, ()				
4.32         Ground clearance at centre of wheelbase         m: (mm)         100         110         110           4.33         Aisle width for pallets 100 x 1200 wide         A <sub>w</sub> (mm)         3092         3200         3309           4.34         Aisle width for pallets 100 x 1200 long         A <sub>w</sub> (mm)         3216         3324         3433           4.35         Outer turning radius         W <sub>v</sub> (mm)         1415         1523         1627           4.36         Inner turning radius         b <sub>D1</sub> (mm)         -         -         -           5.1         Speed laden         km/h         16         16         16           5.2.         Lift speed laden         m//s         0.42         0.42         0.42           5.2.         Lift speed laden         m/s         0.6         0.6         0.6           5.3.1         Lowering speed laden         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.6         Max. drawbar pull unden         N         7550         7550         7550           5.7.1         Gradeability laden         %         10         10         10		4.24	Fork carriage width	<i>b</i> ₃ (mm)	980	980	980	
4.33         Aksie width for pallets 1000 x 1200 wide         A <sub>w</sub> (mm)         33092         3200         3309           4.34         Aksie width for pallets 800 x 1200 long         A <sub>w</sub> (mm)         3216         3324         3433           4.35         Outer turning radius         W <sub>w</sub> (mm)         1415         1523         1627           4.36         Inner turning radius         B <sub>21</sub> (mm)         -         -         -           4.36         Inner turning radius         B <sub>21</sub> (mm)         -         -         -           4.36         Inner turning radius         B <sub>21</sub> (mm)         -         -         -           4.36         Inner turning radius         M <sub>M</sub> /h         14         14         14           5.1         Speed laden         m/h         16         16         16           5.2         Lift speed unladen         m/s         0.6         0.6         0.6           5.3.1         Lowering speed unladen         N         2700         2700         2700           5.5         Rated drawbar pull unladen         N         2750         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700			Ground clearance beneath mast, laden	<i>m</i> 1 (mm)	91	91	91	
4.34         Asie width for pallets 800 x 1200 long         A <sub>4</sub> (mm)         3216         3324         3433           4.35         Outer turning radius         W <sub>4</sub> (mm)         1415         1523         1627           4.36         Inner turning radius         B <sub>32</sub> (mm)         -         -         -           5.1         Speed laden         km/h         14         14         14           5.1         Speed unladen         m/h         16         16         16           5.2         Lift speed unladen         m/s         0.62         0.42         0.42           5.3.1         Lowering speed unladen         m/s         0.6         0.6         0.6           5.3.1         Lowering speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull landen         N         2700         2700         2700           5.6         Max. drawbar pull unladen         N         7550         7550         7550           5.7.1         Gradeability unladen         %         6         6         5.9           5.7.1         Gradeability unladen         %         18         18         17           5.8.1         Max. gradeability un								
4.35         Outer turning radius         W <sub>x</sub> (mm)         1415         1523         1627           4.36         Inner turning radius         b <sub>12</sub> (mm)         -         -         -         -           5         Speed laden         km/h         14         14         14         14           5.1         Speed unladen         km/h         16         16         16         16           5.2         Lift speed laden         m/s         0.42         0.42         0.42         0.42           5.1         Lowering speed laden         m/s         0.6         0.6         0.6         0.6           5.3         Lowering speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.5.1         Rated drawbar pull laden         N         7550         7550         5550           5.6.1         Max. drawbar pull laden         N         7700         7700         7700           5.7.1         Gradeability unladen         %         6         6         5.9         5.7           5.9         Acceleration time unladen         \$         4.7         4.7 <th></th> <td></td> <td></td> <td>. ,</td> <td></td> <td></td> <td></td> <td></td>				. ,				
4.36         Inner turning radius         b <sub>1</sub> (mm)         -         -         -           5.1         Speed laden         km/h         14         14         14           5.1         Speed laden         km/h         16         16         16           5.2         Lift speed laden         m/s         0.42         0.42         0.42           5.2.1         Lift speed laden         m/s         0.6         0.6         0.6           5.2.1         Lift speed unladen         m/s         0.47         0.47         0.47           5.3         Lowering speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.6         Max. drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         %         6         6         5.9         5.7           5.7         Gradeability unladen         %         18         18         17         5.8           5.8         Max. gradeability unladen         %         28         29         28         29         28           5.9 <th></th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Sint         Speed laden         km/h         14         14         14           5.1         Speed unladen         km/h         16         16         16           5.2         Lift speed laden         m/s         0.42         0.42         0.42           5.2.1         Lift speed unladen         m/s         0.66         0.6         0.6           5.3.1         Lowering speed unladen         m/s         0.6         0.6         0.6           5.3.1         Lowering speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull unladen         N         2700         2700         2700           5.5.1         Rated drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7         Gradeability unladen         %         6         6         5.9         5.7.1           5.7.1         Gradeability unladen         %         10         10         10         10           5.8         Max. gradeability unladen         %         18         18         17         5.8           5.9.1 <th></th> <td></td> <td></td> <td>· · ·</td> <td></td> <td></td> <td></td> <td></td>				· · ·				
Final Speed unladen         km/h         16         16         16           5.2.1         Lift speed unladen         m/s         0.42         0.42         0.42           5.2.1         Lift speed unladen         m/s         0.6         0.6         0.6           5.3         Lowering speed laden         m/s         0.6         0.6         0.6           5.3         Lowering speed unladen         m/s         0.70         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.5.1         Rated drawbar pull laden         N         2700         2700         2700           5.6.1         Max. drawbar pull unladen         N         7500         750         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7.1         Gradeability laden         %         6         6         5.9         5           5.7.1         Gradeability unladen         %         18         18         17           5.8.1         Max. gradeability unladen         %         28         29         28           5.9.1         Acceleration time laden								
S2         Lift speed laden         m/s         0.42         0.42         0.42           5.2.1         Lift speed unladen         m/s         0.6         0.6         0.6           5.3.1         Lowering speed laden         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.5         Rated drawbar pull unladen         N         2700         2700         2700           5.6         Max. drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7.1         Gradeability laden         %         6         6         5.9         5.7.1           5.7.1         Gradeability unladen         %         18         18         17         5.8           5.8.1         Max. gradeability unladen         %         28         29         28         29           5.7.1         Gradeability unladen         %         18         18         17         5.3           5.8.1         Max. gradeability unladen         %         28         29         28								
Form         5.2.1         Lift speed unladen         m/s         0.6         0.6         0.6           5.3         Lowering speed laden         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.5.1         Rated drawbar pull unladen         N         2700         2700         2700           5.6.1         Max. drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7.1         Gradeability laden         %         6         6         5.9         5.7.1           5.7.1         Gradeability unladen         %         10         10         10         10           5.8.1         Max. gradeability unladen         %         18         18         17         5.8.1           5.9.1         Acceleration time unladen         \$         4.7         4.7         4.8         4.4           5.9.1         Acceleration time unladen         \$         4         4.1         5.3.1           5.9.1         Acceleration time unladen         \$         4								
Solution         5.3.1         Lowering speed unladen         m/s         0.47         0.47         0.47           5.5         Rated drawbar pull laden         N         2700         2700         2700           5.5.1         Rated drawbar pull unladen         N         2700         2700         2700           5.6         Max. drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7         Gradeability uladen         %         6         6         5.9         5.7           5.8         Max. gradeability unladen         %         10         10         10         10           5.8         Max. gradeability unladen         %         28         29         28         29           5.9         Acceleration time unladen         s         4.7         4.7         4.8         4           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity at 15% duty factor         kW         9         9         9         9         9         6.3         Battery equipment		5.2.1	Lift speed unladen		0.6			
By Figure 1         S.5         Rated drawbar pull laden         N         2700         2700         2700           5.5.1         Rated drawbar pull unladen         N         2700         2700         2700         2700           5.6         Max. drawbar pull laden         N         7550         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.7         Gradeability unladen         %         6         6         5.9         10           5.8.1         Max. gradeability unladen         %         10         10         10         10           5.8.1         Max. gradeability unladen         %         28         29         28         28           5.9         Acceleration time laden         \$         4.7         4.7         4.8         14           5.9.1         Acceleration time unladen         \$         4         4         2 x 4         2 x 4           5.9.1         Acceleration time unladen         \$         4         4         1         2           6.1         Drive motor capacity at 15% duty factor         KW         9         9         9         9         9								
Figure 1         S.5.1         Rated drawbar pull unladen         N         2700         2700         2700           5.6         Max. drawbar pull unladen         N         7550         7550         7550           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.6.1         Max. drawbar pull unladen         N         7700         7700         7700           5.6.1         Max. drawbar pull unladen         %         6         6         5.9           5.7.1         Gradeability unladen         %         10         10         10           5.8         Max. gradeability unladen         %         28         29         28           5.9.1         Acceleration time laden         s         4.7         4.8         4           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery weight         kg         708         856         1013								
S7.1         Gradeability unladen         %         10         10         10           5.8         Max. gradeability unladen         %         18         18         17           5.8         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400-500)         575 (500-625)         690 (600-750)           6.5         Battery weight         kg         708         856         1013           6.6	Ce l							
S7.1         Gradeability unladen         %         10         10         10           5.8         Max. gradeability unladen         %         18         18         17           5.8         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400-500)         575 (500-625)         690 (600-750)           6.5         Battery weight         kg         708         856         1013           6.6	nan							
S7.1         Gradeability unladen         %         10         10         10           5.8         Max. gradeability unladen         %         18         18         17           5.8         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400-500)         575 (500-625)         690 (600-750)           6.5         Battery weight         kg         708         856         1013           6.6	for							
S7.1         Gradeability unladen         %         10         10         10           5.8         Max. gradeability unladen         %         18         18         17           5.8         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400-500)         575 (500-625)         690 (600-750)           6.5         Battery weight         kg         708         856         1013           6.6	Perl							
5.8         Max. gradeability laden         %         18         18         17           5.8.1         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         kWh/h             8.1         Dive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR	-							
5.8.1         Max. gradeability unladen         %         28         29         28           5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         KWh/h             8.1         Drive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR     <								
5.9         Acceleration time laden         s         4.7         4.7         4.8           5.9.1         Acceleration time unladen         s         4         4.1         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         KW/h              8.1         Drive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR           8.2         Operating pressure for attachments         l								
5.9.1         Acceleration time unladen         s         4         4         4.1           5.10         Brakes         electr./mech.         electr./mech.         electr./mech.           6.1         Drive motor hourly capacity         kW         2 x 4         2 x 4         2 x 4           6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         kWh/h             8.1         Drive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR           8.2         Operating pressure for attachments         bar         170         170         170           8.3         Oil flow for attachments         I/min               8.4         Average noise peak at operator's ears         dB (A)			5 /					
5.10Brakeselectr./mech.electr./mech.electr./mech.6.1Drive motor hourly capacitykW2 x 42 x 42 x 46.2Hoist motor capacity at 15% duty factorkW9996.3Battery equipment to DIN 43531/35/36 A, B, C, noDIN 43531 ADIN 43531 ADIN 43531 A6.4Battery voltageU (V)4848486.4.1Battery capacityK 5 (Ah)460 (400 - 500)575 (500 - 625)690 (600 - 750)6.5Battery weightkg70885610136.6Energy consumption according to VDI cyclekWh/h8.1Drive controlStilltronic-SCRStilltronic-SCRStilltronic-SCR8.2Operating pressure for attachmentsbar1701701708.3Oil flow for attachmentsI/min8.4Average noise peak at operator's earsdB (A)				S	4			
6.2         Hoist motor capacity at 15% duty factor         kW         9         9         9           6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         kWh/h								
6.3         Battery equipment to DIN 43531/35/36 A, B, C, no         DIN 43531 A         DIN 43531 A         DIN 43531 A           6.4         Battery voltage         U (V)         48         48         48           6.4.1         Battery capacity         K 5 (Ah)         460 (400 - 500)         575 (500 - 625)         690 (600 - 750)           6.5         Battery weight         kg         708         856         1013           6.6         Energy consumption according to VDI cycle         kWh/h             8.1         Drive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR           8.2         Operating pressure for attachments         bar         170         170         170           8.3         Oil flow for attachments         I/min               8.4         Average noise peak at operator's ears         dB (A)								
6.4Battery voltageU (V)4848486.4.1Battery capacityK 5 (Ah)460 (400 - 500)575 (500 - 625)690 (600 - 750)6.5Battery weightkg70885610136.6Energy consumption according to VDI cyclekWh/h8.1Drive controlStilltronic-SCRStilltronic-SCRStilltronic-SCR8.2Operating pressure for attachmentsbar1701701708.3Oil flow for attachmentsI/min8.4Average noise peak at operator's earsdB (A) </td <th></th> <td></td> <td></td> <td>kW</td> <td>-</td> <td>-</td> <td>-</td> <td></td>				kW	-	-	-	
Image: Section of the sectio	ors			11.0.0				
Image: Section of the sectio	Mot		, , ,		-		-	
6.6     Energy consumption according to VDI cycle     kWh/h     Image: Constraint of the system of					· · · · · · · · · · · · · · · · · · ·			
8.1         Drive control         Stilltronic-SCR         Stilltronic-SCR         Stilltronic-SCR           8.2         Operating pressure for attachments         bar         170         170         170           8.3         Oil flow for attachments         I/min              8.4         Average noise peak at operator's ears         dB (A)					700	000	1015	
8.2     Operating pressure for attachments     bar     170     170       8.3     Oil flow for attachments     I/min         8.4     Average noise peak at operator's ears     dB (A)	Other				Stilltronic-SCR	Stilltronic-SCR	Stilltronic-SCR	
6.4     Average noise peak at operators ears     db (A)			Operating pressure for attachments					
6.4     Average noise peak at operators ears     db (A)								
8.5   Trailer coupling, type/DIN   pin pin pin pin				dB (A)				
		8.5	ו raller coupling, type/UIN		j pin	j pin	pin	

STILL	STILL
R 20-18	R 20-20
electric	electric
rider seated	rider seated
1800	2000
500	500
355	355
1445	1727
3070	3210
4375	4681
495	529
1510	1574
1560	1636
 SE	SE
200/50-10	200/50-10
15 x 4 <sup>1</sup> / <sub>2</sub> -8	15 x 4 <sup>1</sup> / <sub>2</sub> -8
2x	2 x
2	2
942	942
 170	170
3	3
7	7
2260	2260
150	150
3430	3350
4080	4000
1960	1960
892	892
460	460
2782	2892
1982	2092
1142	1142
40	40
80 800	80 800
ISO II B	ISO II B
1040	1040
1040	1040
110	110
3309	3418
3433	3542
1627	1727
-	-
14	14
16	16
0.38	0.38
0.6	0.6
0.6	0.6
0.47	0.47
2300	1870
2300	2120
7480	7480
7630	
/0.30	/630
	7630
5.5	3.6
5.5 9.5	3.6 7.1
5.5 9.5 17	3.6 7.1 14.3
5.5 9.5 17 28	3.6 7.1 14.3 24.5
5.5 9.5 17 28 4.9	3.6 7.1 14.3 24.5 5.0
5.5 9.5 17 28 4.9 4.2	3.6 7.1 14.3 24.5 5.0 4.3
5.5 9.5 17 28 4.9 4.2 electr./mech.	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech.
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48 690 (600-750)	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48 690 (600-750)
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48 690 (600-750) 1013	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48 690 (600-750) 1013
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48 690 (600-750) 1013 Stilltronic-SCR	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48 690 (600-750) 1013 Stilltronic-SCR
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48 690 (600-750) 1013	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48 690 (600-750) 1013
5.5 9.5 17 28 4.9 4.2 electr./mech. 2 x 4 9 DIN 43531 A 48 690 (600-750) 1013 Stilltronic-SCR	3.6 7.1 14.3 24.5 5.0 4.3 electr./mech. 2 x 4 9 DIN 43541 A 48 690 (600-750) 1013 Stilltronic-SCR

**Gradient performance** (dry, concrete surface = coefficient of friction 0.8, b [R 20-15:500 A/h])

unladen



Example (R20-16 with 1600 kg load): 9 % gradient, 10 m distance. This gradient is negotiable 145 times per hour.

laden	R 20-151	R 20-1
	12% - 700 m 9% - 1500 m 5% - 5650 m 3% -13630 m	5543
	•	

# Mast Types.

			Tolog	copic	Full fr	
			from to	from to	from to	
5	Rated lift	h₃ mm	2630-3530	3630-5430	2775-3575	
13	Closed mast height	$h_1 \text{ mm}$	1860-2310	2360-3260	1860-2260	
20-14/15/16			3280-4180	4280-6080	3425-4225	
14	Raised mast height $h_4$ m			<u>    4280-6080    </u> 50		
2	Free lift Angle of tilt	$\frac{h_2/h_5 \text{ mm}}{\alpha \beta \neq \circ}$	3 7	3 9	1230-1630 3 7	
<u> </u>					3 /	
4	Length last last answe		1765			
20-14	Lost load centre	x mm	350		3	
2	Aisle width	A <sub>st</sub> mm	3092	3216	3092	
	Pallets 1000 x 1200 wide 800 x 1200 long			70		
1.0	Length	$I_2 \text{ mm}$		73	18	
20-15	Lost load centre	x mm	350		3	
2	Aisle width	A <sub>st</sub> mm	3200	3324	3200	
	Pallets 1000 x 1200 wide 800 x 1200 long					
6	Length	I <sub>2</sub> mm	1982		19	
R 20-16	Lost load centre	x mm	355		3.	
2	Aisle width	A <sub>st</sub> mm	3309	3433	3309	
	Pallets 1000 x 1200 wide 800 x 1200 long					
	Rated lift	h₃ mm	2630-3530	3630-5430	2675-3475	
	Closed mast height	<i>h</i> <sup>1</sup> mm	1860-2310	2360-3260	1860-2260	
	Raised mast height	h₄ mm	3288-4180 4280-6080 150		3343-4143	
≌	Free lift	$h_2/h_5 \text{ mm}$			1212-1612	
R 20-18	Angle of tilt	αβ≯°	3 7	3 9	3 7	
≃	Length /2 mm			82	19	
	Lost load centre	x mm	355		3	
	Aisle width	A <sub>st</sub> mm	3309	3433	3309	
	Pallets 1000 x 1200 wide 800 x 1200 long					
	Rated lift	h₃ mm	2550-3350	3430 - 5330	2670-3570	
R 20-20	Closed mast height	$h_1 \text{ mm}$	1860-2260	2310-3260	1860-2310	
	Raised mast height	h₄ mm	3200-4000	4100-6000	3320-4220	
	Free lift	$h_2/h_5 \text{ mm}$		50	1230-1680	
	Angle of tilt	αβ≯°	3 7	3 9	3 7	
	_ength I <sub>2</sub> mm		2092		20	
	Lost load centre	x mm	365		30	
	Aisle width	1 mm	3418	3542	3418	
	Pallets 1000 x 1200 wide 800 x 1200 long	A <sub>st</sub> mm	3410	5542	3410	

The models depicted in this brochure may contain special parts or attachments which are not supplied as standard.

# attery 600 A/h

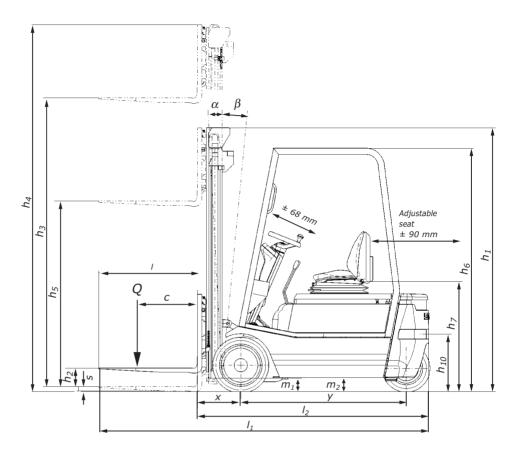
61	R 20-181	

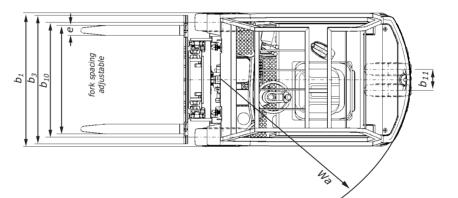
т	780 m
т	1540 m
т	3785 m
т	13675 m

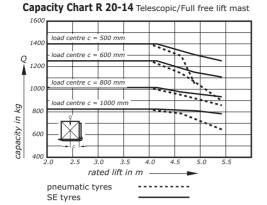
ne hour

<b>6</b> 1	R 20-181	
т	620 m	
т	1400 m	
m m	5400 m 11270 m	

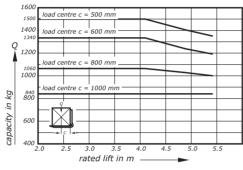
	_						
ee lift	Triple						
from to	from to						
3675-4075	4020-8020						
2310-2510		1860-3260					
4325-4725		4670-					
1680-1880		1230-					
3 9	3			5			
65		17					
0	I	37	70				
3216	31	10	33	25			
73		18	93				
0		37	70				
3324	32	3218		3343			
82	1	2002					
5		375					
3433	33	3327		3452			
3575-3975	3870-	5370	5665-8065				
2310-2510	1860-			- 3260			
4243-4643	4670-	6170		-8730			
1662-1862	1212-	1712	1830	-2630			
3 9	3	5	3	5			
82	2002		2014				
15	375		387				
3433	3327	3452	3338	3463			
3670-4370	3865-8065						
2360-2710	1860-3260						
4320-5020	4530-8730						
1730-2080	1230-2630						
3 9	3 5						
92	2114						
5	387						
3542	34	38	35	63			



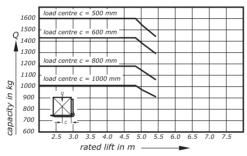




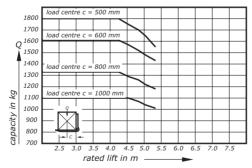
Capacity Chart R 20-15 Telescopic/Full free lift mast



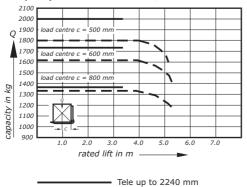
Capacity Chart R 20-16 Telescopic/Full free lift mast

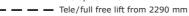


Capacity Chart R 20-18 Telescopic/Full free lift mast

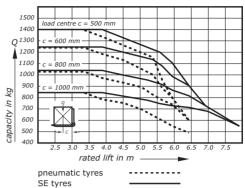


Capacity Chart R 20-20 Telescopic/Full free lift mast

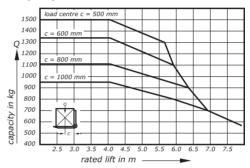




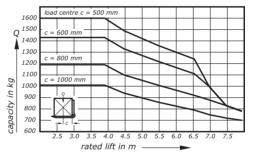
#### Capacity Chart R 20-14 Triple mast



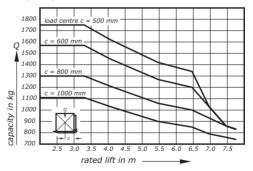
Capacity Chart R 20-15 Triple mast



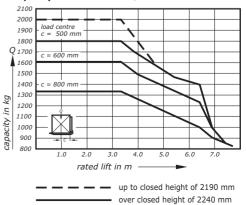
Capacity Chart R 20-16 Triple mast



#### Capacity Chart R 20-18 Triple mast



#### Capacity Chart R 20-20 Triple mast



# Technical Data Electric Forklift Trucks Models R 20-14/R 20-15/R 20-16/R 20-18/R 20-20.

### **Dual motor front wheel drive.**

With a 48 volt battery and dual motor front wheel drive, the R20 is a high performance machine.

Two heavy duty drive motors provide powerful traction, particularly on steep slopes.

The tractive power of the drive motors is precisely matched to the movement of the steering, i.e. at a 90° steering lock both drive motors turn the truck actively into the corner. This makes for sensitive operation in narrow aisles and gives better manoeuvrability.

• Speed and torque can be regulated independently of each other, allowing sensitive driving, powerful acceleration and wear free electrical braking using only the drive pedal.

• High efficiency regenerative braking (energy recovery) of up to 10% is possible. When plugging or braking, or if the drive pedal is released, energy flows back into the battery to give the R20 a greater working range from one battery charge. It is often possible to use a smaller battery.

#### Electrics.

The digital electrical system allows simple adaptation to altered operating conditions. The exchange of information between electrical assemblies, e.g. between the drive controller and the cockpit, is achieved using the CAN bus system (<u>Controller Area</u><u>Network</u>) already used successfully in other types of vehicle. The number of cables and plug connectors is reduced in comparison to the previous system and thus reliability is increased. In addition, it is easy to implement variants to the electrical equipment.

#### Mast.

STILL clear view masts in telescopic, HiLo and triplex designs for every application:

#### • Telescopic:

the mast suitable for most applications. Economical mast design.

#### • HiLo:

for high stacking under low ceilings. Utilises the space right up to the roof.

#### • Triplex:

for applications with low doorways and greater stacking heights. Utilises the space right up to the roof.

• Fork carriage

The fork carriage, completely redesigned for this truck, gives a clear view onto the load being picked up thanks to its optimised profiles. Hydraulic hoses for attachments are run in the dead visibility area of the mast sections – with no hose reels – for wear-free operation.



#### Steering.

• The steering operates on the hydrostatic principle with a priority valve.

• The pump operates "on demand" – i.e. only when the steering wheel is moved – for optimal energy economy.

• 90° steering makes the R20 very manoeuvrable for use in tight production areas and storage space.

• Extremely safe and reliable operation due to the fully encapsulated steering system, protected against dirt and damp.

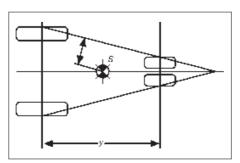
# Hydraulics.

• Pump motor speed precisely follows valve lever position to match demand exactly, thereby conserving energy to give longer operation from a battery charge. Working safety is increased due to precision hoisting.

• The oil is filtered through a suction filter before going to the hydraulic units, reducing wear to a minimum.

# Stability.

Because of its high stability the R20 can travel quickly around corners, allowing a fast throughput of goods.



Long wheel-base and twin rear wheel design means that the tipping lines are spread wide apart and are thus a long way from the truck's centre of gravity. The greater this distance, the higher the stability.

# Driver's compartment.

• The cockpit has an LCD display and a facility for the driver to select from a range of pre-set drive performance levels. He can select the most suitable acceleration or braking and travel speeds from 5 pre-set options. Further adjustments of the drive parameters to suit the application conditions can be made by simply altering the software.

• The drive pedal\* sets the travel speed required by the driver, which is unaffected by either load or road surface.

• The up-to-date driving characteristics of the R20 allow the truck to be held on a gradient or on uneven roadways without the use of hand or foot brakes.



• Roomy footwell with inclined floor plate and non-slip rubber matting.

• Automotive style hand brake to the right of the driver's seat.

• Low step gives convenient entry and exit to the spacious footwell. Inclined floor plate helps reduce leg fatigue.

• Comfortable seat adjusts to the driver's weight. Generous squab length gives added support to the thighs and reduces fatigue.

• Adjustable steering column plus reach and rake adjustment for the seat provide an extremely comfortable working position for any physique.

# Service.

The servicing interval is doubled – from the previous 500 operating hours up to 1000. This has been made possible by improvements in quality and by reducing the number of components which require maintenance.

\* Available with dual pedal control on request.