



## Electric Mobile Mast Reach Trucks

3,000 to 4,500 lbs. capacity

R14, R16, R16HD, R16N, R20, R20N, and R20W

Series 115-12 AC

Linde Material Handling

The Linde logo, featuring the word 'Linde' in a white, cursive script font, set against a red background.

### Design

The three wheel electric mobile mast reach truck models R14, R16 and R20, have been developed to meet the most arduous application requirements. Designed to achieve maximum productivity, the truck's unique features result from a thorough analysis of today's warehouse logistics. The overall design concept ensures premium operator comfort and contributes significantly to high work throughput with minimum fatigue.

The chassis has been designed to yield exceptional strength and rigidity. The rear section is constructed of a steel casting which helps to lower the center of gravity for greater stability and higher residual capacities at high lift. The operator's compartment, motors, and electronics are protected within this rugged structure; all with easy accessibility for maintenance.

### Comfort

The wide operator compartment provides excellent protection and superior ergonomics. Every aspect of form and function has been evaluated to optimize the combined efficiency of man and machine for maximum productivity. The advanced ergonomic layout of all operating controls ensures optimum comfort and efficiency. The Linde twin directional control pedals, combined with electronic traction control, enable smooth load handling and maneuverability even in confined areas. The specially designed full suspension seat supports every operational body movement, with full lateral lumbar and weight adjustments to suit every operator. The Linde Load Control (LLC) system features dual axis joystick controls for minimum operator effort and efficient, fatigue-free load handling. The comprehensive integrated display includes steering angle indicator, hour meter, battery discharge indicator with lift slowdown interlock, motor temperature, brush wear and brake fluid level indicators for cost effective planning of maintenance intervals and battery charging schedules.

Steering is controlled electronically through "steer-by-wire" technology providing extremely low steering efforts. Parameter adjustments allow the steering to be tailored to suit specific applications.

### Performance

A powerful 8.0 hp AC drive motor is positioned in a fixed mounting above a turntable gear box assembly. Power is transmitted to the drive wheel via helical and bevel gear reduction. Electronically governed power reduction

when the handbrake is applied enables safe starting on grades without overloading the transmission or parking brake.

### Reliability

Linde R-Series trucks are fitted with the advanced, high frequency, Linde Digital Control (LDC) system for traction and load handling. The system reacts progressively to operator demand and provides extremely smooth movements. It also incorporates wear-free dynamic braking upon the release of either directional control pedal. Integrated diagnostics via a CAN bus connection ensures rapid servicing and maximum uptime.

### Productivity

The low-deflection clearview triple mast with tilting carriage and integral sideshifter provides a clear view at all lift heights for faster and safer load handling. The patented design uses only two hydraulic cylinders mounted behind the mast uprights. The integral outer mast and reach frame allows for superior forward visibility of the forks and load at low lift heights. The tilting carriage with an integral sideshifter fitted as standard equipment minimizes forward load movement providing high residual capacities. Internal reeving for up to four hydraulic functions eliminates the need for hose reels. Permanently sealed canted mast rollers provide precise alignment of the moving mast sections with minimal friction to ensure smooth, rapid lift/lower movements. A powerful digital controlled pump motor delivers fast lift speeds, and automatic slowdown at both ends of the reach stroke ensures smooth, safe and accurate load placement. Lift speed automatically slows down as maximum lift is reached.

# Standard and optional equipment

## Standard Equipment

AC Drive & Hydraulics

All items shown under safety

Steering indicator

Electronic controls with integrated microprocessor for infinitely variable, highly economical control of travel speeds and working hydraulics (LDC system)

Combination battery discharge indicator; when battery discharge has reached 80%, the electric power supplied to the hydraulic motor is automatically reduced

Motor temperature, brush wear and brake fluid level indicators

Two lever Linde load control - 1 lift and reach - 2 tilt and sideshift

Suspension type driver seat with fore-aft, backrest angle and operator weight adjustments

Linde twin directional control pedals

Polyurethane drive and load wheels

Load backrest extension

## Optional Equipment

R20W overall width 63 in. (1600 mm)

Seat interlock alarm

CCTV

Height pre-selector (LPS)

Height indicator (LHI)

Non-standard fork lengths

Rotating beacon

Back-up alarm

Working lights

Flashing lights

Separate levers for lift, tilt, sideshift and reach functions

Single accelerator pedal and direction switch with interlock actuated by left foot

PVC seat (with/without heater)

Seat with adjustable lumbar support

Seat with backrest extension

Cold storage protection to -300F

Cold storage/comfort cabin

Drive-in-rack overhead guard

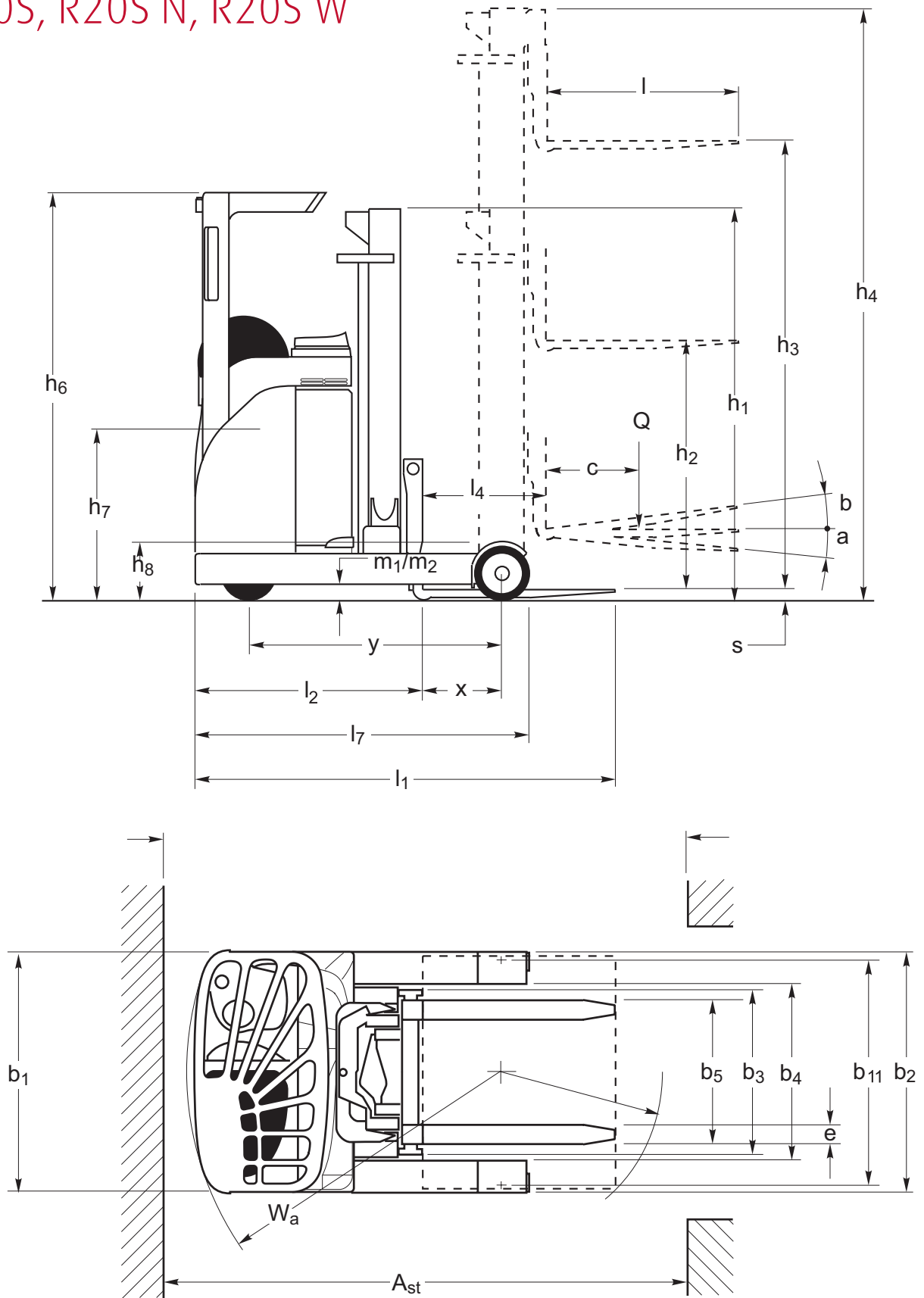
Side guidance for drive-in-racking

Battery compartment rollers

Alternative colors

Other options available on request

R14S  
R16S, R16S HD, R16S N  
R20S, R20S N, R20S W



# Technical data

May 2013

## SERIES 115-12 (R14S, R16S)

|                 |                   | R14S   |                                       | R16S                       |                            |              |
|-----------------|-------------------|--|---------------------------------------|----------------------------|----------------------------|--------------|
|                 |                   |  |                                       |                            |                            |              |
| Characteristics | 1.1               | Manufacturer   | Linde                                 |                            | Linde                      |              |
|                 | 1.2               | Model designation  | R14S                                  |                            | R16S                       |              |
|                 | 1.3               | Power unit:  | Battery                               |                            | Battery                    |              |
|                 | 1.4               | Operation  | Rider/Sit down                        |                            | Rider/Sit down             |              |
|                 | 1.5               | Load capacity <sup>1)</sup>                                  | Q lb (kg)                             | 3000 (1400)                | 3500 (1600)                |              |
|                 | 1.6               | Load center  | c in (mm)                             | 24 (600)                   | 24 (600)                   |              |
|                 | 1.8               | Axle center to fork face                                     | x in (mm)                             | 12.1 (311)                 | 16.2 (416)                 |              |
|                 | 1.9               | Wheelbase  | y in (mm)                             | 50.2 (1275)                | 54.5 (1385)                |              |
|                 | Weight            | 2.1  | Service weight (with minimum battery) | lbs (kg)                   | 6292 (2854)                | 6403 (2904)  |
| 2.3             |                   | Axle load without load, front/rear                           | lbs (kg)                              | 3919/2373 (1778/1077)      | 4138/2265 (1877/1027)      |              |
| 2.4             |                   | Axle load, forks extended with load, front/rear              | lbs (kg)                              | 1064/8229 (516/3739)       | 1164/8739 (526/3979)       |              |
| 2.5             |                   | Axle load, forks retracted with load, front/rear             | lbs (kg)                              | 3174/6119 (1473/2782)      | 3701/6202 (1677/2828)      |              |
| Wheels/Tires    |                   | 3.1  | Tires                                 | Polyurethane               |                            | Polyurethane |
|                 | 3.2               | Tire size, front   | in (mm)                               | 13 x 5.3 (330 x 135)       | 13 x 5.3 (330 x 135)       |              |
|                 | 3.3               | Tire size, rear  | in (mm)                               | 11.2 x 3.9 (285 x 100)     | 11.2 x 3.9 (285 x 100)     |              |
|                 | 3.5               | Wheels, number front/rear (x = driven)                       |                                       | 1x/2                       | 1x/2                       |              |
|                 | 3.7               | Track width, rear  | b11 in (mm)                           | 45.3 (1150)                | 45.3 (1150)                |              |
|                 | Dimensions        | 4.1  | Mast/fork carriage tilt, forward/back | degrees                    | 2/4                        | 2/4          |
|                 |                   | 4.2  | Height of mast lowered                | h1 in (mm)                 | 83 (2110)                  | 83 (2110)    |
| 4.3             |                   | Free lift  | h2 in (mm)                            | 49 (1261)                  | 49 (1261)                  |              |
| 4.4             |                   | Lift <sup>7)</sup>   | h3 in (mm)                            | 185 (4695)                 | 185 (4695)                 |              |
| 4.5             |                   | Height of mast extended                                      | h4 in (mm)                            | 212 (5395)                 | 212 (5395)                 |              |
| 4.7             |                   | Height of overhead guard (cabin)                             | h6 in (mm)                            | 83.1 (2110)                | 83.1 (2110)                |              |
| 4.8             |                   | Height of seat, minimum/maximum                              | h7 in (mm)                            | 37/40.6 (940/1030)         | 37/40.6 (940/1030)         |              |
| 4.10            |                   | Height of reach legs   | h8 in (mm)                            | 12.2 (310)                 | 12.2 (310)                 |              |
| 4.19            |                   | Overall length   | l1 in (mm)                            | 93.86 (2384)               | 94.06 (2389)               |              |
| 4.20            |                   | Length to fork face  | l2 in (mm)                            | 46.61 (1184)               | 46.81 (1189)               |              |
| 4.21            |                   | Overall width  | b1/b2 in (mm)                         | 48.6/49.2 (1234/1250)      | 48.6/49.2 (1234/1250)      |              |
| 4.22            |                   | Fork dimensions  | s/e/l in (mm)                         | 1.5x4x48 (40x100x1200)     | 1.75x4x48 (45x100x1200)    |              |
| 4.23            |                   | Fork carriage class  |                                       | 2A                         | 2A                         |              |
| 4.24            |                   | Width of fork carriage                                       | b3 in (mm)                            | 32.7 (830)                 | 32.7 (830)                 |              |
| 4.25            |                   | Fork spread, minimum/maximum                                 | b5 in (mm)                            | 11.7/27.2 (296/690)        | 12.4/28.0 (316/710)        |              |
| 4.26            |                   | Width between reach legs                                     | b4 in (mm)                            | 36.3 (922)                 | 36.3 (922)                 |              |
| 4.28            |                   | Reach travel   | l4 in (mm)                            | 19.5 (496)                 | 23.9 (606)                 |              |
| 4.31            |                   | Ground clearance, mast                                       | m1 in (mm)                            | 3 (75)                     | 3 (75)                     |              |
| 4.32            |                   | Ground clearance, center of wheelbase                        | m2 in (mm)                            | 3 (75)                     | 3 (75)                     |              |
| 4.34            |                   | Aisle width w/pallet 48" x 40" along 48" forks               | Ast in (mm)                           | 103.5 (2630) <sup>9)</sup> | 103.3 (2625) <sup>9)</sup> |              |
| 4.35            | Turning radius    | Wa in (mm)   | 60.6 (1540)                           | 64.6 (1640)                |                            |              |
| 4.37            | Length of chassis | l7 in (mm)   | 64.5 (1638)                           | 68.8 (1748)                |                            |              |
| Performance     | 5.1               | Travel speed, w/wo load <sup>6)</sup> (AC & DC)              | mph (km/h)                            | 7.5/7.8 (12/12.5)          | 7.5/7.8 (12/12.5)          |              |
|                 | 5.2a              | Lifting speed, w/wo load <sup>6)</sup> (DC)                  | fpm (m/s)                             | 66.9/118 (0.34/0.6)        | 66.9/118 (0.34/0.6)        |              |
|                 | 5.2b              | Lifting speed, w/wo load <sup>6)</sup> (AC)                  | fpm (m/s)                             | 82.6/129.8 (0.42/0.66)     | 78.7/129.8 (0.40/0.66)     |              |
|                 | 5.3               | Lowering speed, w/wo load <sup>6)</sup> (AC & DC)            | fpm (m/s)                             | 108.3/88.6 (0.55/0.45)     | 108.3/88.6 (0.55/0.45)     |              |
|                 | 5.4               | Reach speed, w/wo load <sup>6)</sup> (AC & DC)               | fpm (m/s)                             | 29.5/29.5 (0.15/0.15)      | 29.5/29.5 (0.15/0.15)      |              |
|                 | 5.7               | Climbing ability, w/wo load, 30 minute rating, (AC & DC)     | %                                     | 4.5/8.2                    | 4.7/8.2                    |              |
|                 | 5.8               | Maximum climbability, w/wo load, 30 minute rating, (AC & DC) | %                                     | 10/10                      | 10/10                      |              |
|                 | 5.9               | Acceleration time, w/wo load, (AC & DC)                      | sec                                   | 5.5/4.8                    | 5.5/4.8                    |              |
|                 | 5.10              | Service brake  |                                       | Hydraulic/Electric         | Hydraulic/Electric         |              |
|                 | Drive             | 6.1a   | DC Drive motor, 60 min. rating        | hp (kW)                    | 7.24 (5.4)                 | 7.24 (5.4)   |
| 6.1b            |                   | AC Drive Motor, 60 min. rating                               | hp (kw)                               | 8.05 (6)                   | 8.05 (6)                   |              |
| 6.2             |                   | Lift motor, 15% rating                                       | hp (kW)                               | 16.1 (12)                  | 16.1 (12)                  |              |
| 6.4             |                   | Battery voltage/rated capacity (6h)                          | V/Ah                                  | 48/450                     | 48/450                     |              |
| 6.5             |                   | Battery weight (minimum) <sup>8)</sup>                       | lbs (kg)                              | 1575 (714)                 | 1575 (714)                 |              |
| Other           | 8.1               | Type of drive/hydraulic-steering control                     |                                       | Electronic/Stepless        | Electronic/Stepless        |              |
|                 | 8.2               | Working pressure for attachments                             | psi (bar)                             | 2900 (200)                 | 2,900 (200)                |              |
|                 | 8.3               | Oil flow for attachments                                     | gpm (l/min)                           | 1.7 (6.5)                  | 1.7 (6.5)                  |              |
|                 | 8.4               | Noise level at operator's ear <sup>5)</sup>                  | dB                                    | 63                         | 63                         |              |

- 1) Capacity may be reduced for high lifts - see capacity diagrams.
- 2) Alternative width of 63 in. (1600mm) available for R20W.
- 3) Battery must be manufactured to IEC 254-2 Standards and Specifications.

- 4) Lift heights of 251 in. (6,400 mm) and above increase length to fork face and 900 stacking aisle widths by 1 in. (27mm) on R20, R20N and R20W.
- 5) Noise level increases to 66 dB when cab is installed.

## SERIES 115-12 (R16S HD, R16S N, R20S, R20S N, and R20S W)

|      |                     |                       |                     |                       |                     |                      |                     |                      |                     |                      |
|------|---------------------|-----------------------|---------------------|-----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| 1.1  | Linde               |                       | Linde               |                       | Linde               |                      | Linde               |                      | Linde               |                      |
| 1.2  | R16S HD             |                       | R16S N              |                       | R20S                |                      | R20S N              |                      | R20S W              |                      |
| 1.3  | Battery             |                       | Battery             |                       | Battery             |                      | Battery             |                      | Battery             |                      |
| 1.4  | Rider/Sit down      |                       | Rider /Sit down     |                       | Rider/Sit down      |                      | Rider/Sit down      |                      | Rider/Sit down      |                      |
| 1.5  | 3500                | (1600)                | 3500                | (1600)                | 4500                | (2000)               | 4500                | (2000)               | 4500                | (2000)               |
| 1.6  | 24                  | (600)                 | 24                  | (600)                 | 24                  | (600)                | 24                  | (600)                | 24                  | (600)                |
| 1.8  | 14.8                | (380)                 | 13.4                | (346)                 | 18.5                | (475)                | 15.0                | (385)                | 18.5                | (475)                |
| 1.9  | 54.5                | (1385)                | 54.5                | (1385)                | 59.8                | (1520)               | 59.8                | (1520)               | 59.8                | (1520)               |
| 2.1  | 7085                | (3214)                | 6137                | (2784)                | 7087                | (3215)               | 6734                | (3054)               | 8117                | (3682)               |
| 2.3  | 4604/2481           | (2088/1125)           | 3830/2307           | (1737/1046)           | 4609/2478           | (2090/1124)          | 3997/2737           | (1813/1241)          | 5278/2838           | (2394/1287)          |
| 2.4  | 958/9627            | (433/4381)            | 1020/8618           | (461/3923)            | 1517/10070          | (625/4590)           | 1456/9778           | (595/4460)           | 1640/10977          | (681/5001)           |
| 2.5  | 3958/6627           | (1793/3020)           | 3195/6442           | (1448/2936)           | 4424/7163           | (1943/3272)          | 3543/7691           | (1541/3513)          | 4807/7810           | (2117/3565)          |
| 3.1  | Polyurethane        |                       | Polyurethane        |                       | Polyurethane        |                      | Polyurethane        |                      | Polyurethane        |                      |
| 3.2  | 13 x 5.3            | (330 x 135)           | 13 x 5.3            | (330 x 135)           | 13 x 5.3            | (330 x 135)          | 13 x 5.3            | (330 x 135)          | 13 x 5.3            | (330 x 135)          |
| 3.3  | 11.2 x 3.9          | (285 x 100)           | 11.2 x 3.9          | (285 x 100)           | 13.8 x 3.9          | (350 x 100)          | 13.8 x 3.9          | (350 x 100)          | 13.8 x 3.9          | (350 x 100)          |
| 3.5  | 1x/2                |                       | 1x/2                |                       | 1x/2                |                      | 1x/2                |                      | 1x/2                |                      |
| 3.7  | 45.3                | (1150)                | 38.6                | (980)                 | 45.3                | (1150)               | 38.6                | (980)                | 51.2                | (1300)               |
| 4.1  | 2/4                 |                       | 2/4                 |                       | 2/4                 |                      | 2/4                 |                      | 2/4                 |                      |
| 4.2  | 116                 | (2930)                | 83.1                | (2110)                | 97.5                | (2476)               | 97.5                | (2,476)              | 97.5                | (2476)               |
| 4.3  | 82                  | (2081)                | 49.7                | (1261)                | 64.1                | (1627)               | 64.1                | (1627)               | 64.1                | (1627)               |
| 4.4  | 251 <sup>7)</sup>   | (6400)                | 183.3               | (4655)                | 183.3               | (4655)               | 183.3               | (4655)               | 183.3               | (4655)               |
| 4.5  | 281                 | (7139)                | 212.4               | (5395)                | 212.4               | (5395)               | 212.4               | (5395)               | 212.4               | (5,395)              |
| 4.7  | 83.1                | (2110)                | 83.1                | (2110)                | 83.1                | (2110)               | 83.1                | (2110)               | 83.1                | (2110)               |
| 4.8  | 37/40.6             | (940/1030)            | 37/40.6             | (940/1030)            | 37/40.6             | (940/1030)           | 37/40.6             | (940/1030)           | 37/40.6             | (940/1030)           |
| 4.10 | 12.2                | (310)                 | 12.2                | (310)                 | 14.7                | (373)                | 14.7                | (373)                | 14.7                | (373)                |
| 4.19 | 95.47               | (2425)                | 97.05               | (2465)                | 96.89               | (2461)               | 100.83              | (2561)               | 96.89               | (2461)               |
| 4.20 | 48.23               | (1225)                | 49.80               | (1265)                | 49.65               | (1261)               | 53.58               | (1361)               | 49.65               | (1261)               |
| 4.21 | 48.6/49.2           | (1234/1250)           | 41.5/42.5           | (1054/1080)           | 48.6/49.2           | (1234/1250)          | 41.5/42.5           | (1054/1080)          | 48.6/55.1           | (1234/1400)          |
| 4.22 | 1.75x4x48           | (45x100x1200)         | 1.75x4x48           | (45x100x1200)         | 1.75x4x48           | (45x100x1200)        | 1.75x4x48           | (45x100x1200)        | 1.75x4x48           | (45x100x1200)        |
| 4.23 | 2A                  |                       | 2A                  |                       | 2A                  |                      | 2A                  |                      | 2A                  |                      |
| 4.24 | 32.7                | (830)                 | 32.7                | (830)                 | 32.7                | (830)                | 32.7                | (830)                | 32.7                | (830)                |
| 4.25 | 12.4/28.0           | (316/710)             | 12.4/20.5           | (316/520)             | 12.4/28.0           | (316/710)            | 12.4/20.5           | (316/520)            | 12.4/28.0           | (316/710)            |
| 4.26 | 36.3                | (922)                 | 29.6                | (752)                 | 36.3                | (922)                | 29.6                | (752)                | 42.2                | (1072)               |
| 4.28 | 22.44               | (570)                 | 21.1                | (536)                 | 27.4                | (695)                | 23.9                | (608)                | 27.4                | (695)                |
| 4.31 | 3                   | (75)                  | 3                   | (75)                  | 3                   | (75)                 | 3                   | (75)                 | 3                   | (75)                 |
| 4.32 | 3                   | (75)                  | 3                   | (75)                  | 3                   | (75)                 | 3                   | (75)                 | 3                   | (75)                 |
| 4.34 | 104.7               | (2,660) <sup>9)</sup> | 105.3               | (2,675) <sup>9)</sup> | 106.3               | (2700) <sup>9)</sup> | 108.9               | (2765) <sup>9)</sup> | 106.3               | (2700) <sup>9)</sup> |
| 4.35 | 64.6                | (1640)                | 63.8                | (1620)                | 69.9                | (1775)               | 68.9                | (1750)               | 69.9                | (1775)               |
| 4.37 | 68.8                | (1748)                | 69.1                | (1754)                | 75.2                | (1911)               | 75.6                | (1921)               | 75.2                | (1911)               |
| 5.1  | 7.5/7.8             | (12/12.5)             | 7.5/7.8             | (12/12.5)             | 7.5/7.8             | (12/12.5)            | 7.5/7.8             | (12/12.5)            | 7.5/7.8             | (12/12.5)            |
| 5.2a | 59/94.4             | (0.3/0.48)            | 66.9/118            | (0.34/0.6)            | 59/94.4             | (0.3/0.48)           | 59/94.4             | (0.3/0.48)           | 59/94.4             | (0.3/0.48)           |
| 5.2b | 68.8/100.3          | (0.35/0.51)           | 78.7/129.8          | (0.40/0.66)           | 63.0/100.3          | (0.32/0.51)          | 62.9/100.3          | (0.32/0.51)          | 64.9/100.3          | (0.33/0.51)          |
| 5.3  | 108.3/78.7          | (0.55/0.4)            | 108.3/88.6          | (0.55/0.45)           | 108.3/78.7          | (0.55/0.4)           | 108.3/78.7          | (0.55/0.4)           | 108.3/78.7          | (0.55/0.4)           |
| 5.4  | 29.5/29.5           | (0.15/0.15)           | 29.5/29.5           | (0.15/0.15)           | 29.5/29.5           | (0.15/0.15)          | 29.5/29.5           | (0.15/0.15)          | 29.5/29.5           | (0.15/0.15)          |
| 5.7  | 3.9/7.1             |                       | 4.3/8               |                       | 3.9/7.1             |                      | 3.9/7.2             |                      | 3.9/7.1             |                      |
| 5.8  | 10/10               |                       | 10/10               |                       | 10/10               |                      | 10/10               |                      | 10/10               |                      |
| 5.9  | 5.8/5               |                       | 5.5/4.8             |                       | 5.8/5               |                      | 5.8/5               |                      | 5.8/5               |                      |
| 5.10 | Hydraulic/Electric  |                       | Hydraulic/Electric  |                       | Hydraulic/Electric  |                      | Hydraulic/Electric  |                      | Hydraulic/Electric  |                      |
| 6.1a | 7.24                | (5.4)                 | 7.24                | (5.4)                 | 7.24                | (5.4)                | 7.24                | (5.4)                | 7.24                | (5.4)                |
| 6.1b | 8.05                | (6)                   | 8.05                | (6)                   | 8.05                | (6)                  | 8.05                | (6)                  | 8.05                | (6)                  |
| 6.2  | 16.1                | (12)                  | 16.1                | (12)                  | 16.1                | (12)                 | 16.1                | (12)                 | 16.1                | (12)                 |
| 6.4  | 48/600              |                       | 48/450              |                       | 48/600              |                      | 48/600              |                      | 48/600              |                      |
| 6.5  | 1970                | (894)                 | 1565                | (710)                 | 1970                | (894)                | 1965                | (891)                | 3000                | (1361)               |
| 8.1  | Electronic/Stepless |                       | Electronic/Stepless |                       | Electronic/Stepless |                      | Electronic/Stepless |                      | Electronic/Stepless |                      |
| 8.2  | 2900                | (200)                 | 2900                | (200)                 | 2900                | (200)                | 2900                | (200)                | 2900                | (200)                |
| 8.3  | (6.5)               | 1.7                   | (6.5)               | 1.7                   | (6.5)               | 1.7                  | (6.5)               | 1.7                  | (6.5)               | 1.7                  |
| 8.4  | 63                  |                       | 63                  |                       | 64                  |                      | 64                  |                      | 64                  |                      |

6) Traction, lift, lower, reach speeds and weights may vary with alternative lift heights.

7) For all other heights, see tables.

8) Minimum battery weight varies with alternative masts.

9) Add operational clearance

# Battery Sizes\*

\*Required battery determined by lift height.

| Battery Sizes | Battery Case Dimensions (in) | Minimum Battery Weight (lb) |
|---------------|------------------------------|-----------------------------|
| Size A        | 11.1 x 48.2 x 30.8           | 1575                        |
| Size B        | 14 x 48.2 x 30.8             | 1970                        |
| Size C        | 16.8 x 48.2 x 30.8           | 2345                        |
| Size AN       | 13.9 x 40.75 x 30.8          | 1565                        |
| Size BN       | 17.4 x 40.75 x 30.8          | 1965                        |
| Size CN       | 21 x 40.75 x 30.8            | 2345                        |

## Mast Table and Optional Battery Sizes for Models Listed

Triple clearview fixed masts with tilting carriage (2° forward, 4° back) and integrated sideshift, 3.2 in. (80 mm) each side.

| Battery Size Requirement/Mast Table |               |                           |                                  |                                   |                            |                                      |
|-------------------------------------|---------------|---------------------------|----------------------------------|-----------------------------------|----------------------------|--------------------------------------|
| R16S N                              | R14S          | R16S                      | lift height<br>h3 + s<br>in / mm | collapsed height<br>h1<br>in / mm | free lift<br>h2<br>in / mm | maximum ext. height<br>h4<br>in / mm |
| AN<br>and<br>BN                     | A<br>and<br>B | A<br>and<br>B<br>and<br>C | 185 / 4695                       | 98 / 2110                         | 49 / 1261                  | 212 / 5395                           |
|                                     |               |                           | 204 / 5200                       | 98 / 2476                         | 64 / 1627                  | 232 / 5895                           |
|                                     |               |                           | 228 / 5800                       | 98 / 2476                         | 64 / 1627                  | 256 / 6495                           |
|                                     |               |                           | 248 / 6295                       | 115 / 2910                        | 81 / 2061                  | 275 / 6995                           |
|                                     |               |                           | 264 / 6700                       | 115 / 2910                        | 81 / 2061                  | 291 / 7395                           |
| BN                                  | B             | B<br>and<br>C             | 275 / 7000                       | 115 / 2910                        | 81 / 2061                  | 303 / 7695                           |
|                                     |               |                           | 287 / 7295                       | 133 / 3376                        | 99 / 2527                  | 315 / 7995                           |
|                                     |               |                           | 299 / 7595                       | 133 / 3376                        | 99 / 2527                  | 327 / 8295                           |
|                                     |               |                           | 315 / 7995                       | 133 / 3376                        | 99 / 2527                  | 343 / 8695                           |
|                                     |               |                           | 326 / 8295                       | 133 / 3376                        | 99 / 2527                  | 354 / 8995                           |
|                                     |               | C                         | 338 / 8595                       | 154 / 3910                        | 120 / 3061                 | 366 / 9295                           |
|                                     |               |                           | 354 / 9000                       | 154 / 3910                        | 120 / 3061                 | 382 / 9695                           |
|                                     |               |                           | 360 / 9200                       | 154 / 3910                        | 120 / 3061                 | 390 / 9895                           |
|                                     |               |                           | 373 / 9500                       | 154 / 3910                        | 120 / 3061                 | 401 / 10195                          |

# Mast Table and Optional Battery Sizes for Models Listed

Triple clearview fixed masts with tilting carriage (2° forward, 4° back) and integrated sideshift, 3.2 in. (80 mm) each side.

| Battery Size Requirement/Mast Table |                 |            |                    |                     |              |                        |            |             |
|-------------------------------------|-----------------|------------|--------------------|---------------------|--------------|------------------------|------------|-------------|
| R16S HD                             | R20S and R20S W | R20S N     | lift height h3 + s | collapsed height h1 | free lift h2 | maximum ext. height h4 |            |             |
|                                     |                 |            | in / mm            | in / mm             | in / mm      | in / mm                |            |             |
| B and C                             | B and C         | BN and CN  | 172 / 4400         | 83 / 2110           | 49 / 1261    | 201 / 5095             |            |             |
|                                     |                 |            | 185 / 4700         | 98 / 2476           | 64 / 1627    | 212 / 5395             |            |             |
|                                     |                 |            | 204 / 5200         | 98 / 2476           | 64 / 1627    | 232 / 5895             |            |             |
|                                     |                 |            | 228 / 5800         | 115 / 2910          | 81 / 2061    | 256 / 6495             |            |             |
|                                     |                 |            | 251 / 6400         | 116 / 2930          | 82 / 2081    | 281 / 7139             |            |             |
|                                     |                 |            | 263 / 6700         | 116 / 2930          | 82 / 2081    | 293 / 7439             |            |             |
|                                     |                 |            | 275 / 7000         | 136 / 3430          | 101 / 2581   | 305 / 7739             |            |             |
|                                     |                 |            | 287 / 7300         | 136 / 3430          | 101 / 2581   | 317 / 8039             |            |             |
|                                     |                 |            | 298 / 7600         | 136 / 3430          | 101 / 2581   | 328 / 8339             |            |             |
|                                     |                 |            | 314 / 8000         | 136 / 3430          | 101 / 2581   | 344 / 8739             |            |             |
|                                     |                 |            | 326 / 8300         | 136 / 3430          | 101 / 2581   | 356 / 9039             |            |             |
|                                     |                 |            | C                  | C                   | CN           | 338 / 8600             | 155 / 3930 | 121 / 3081  |
| 354 / 9000                          | 155 / 3930      | 121 / 3081 |                    |                     |              | 384 / 9739             |            |             |
| 361 / 9200                          | 155 / 3930      | 121 / 3081 |                    |                     |              | 391 / 9939             |            |             |
| 373 / 9500                          | 155 / 3930      | 121 / 3081 |                    |                     |              | 403 / 10239            |            |             |
|                                     |                 |            |                    |                     | 381 / 9700   | 155 / 3930             | 121 / 3081 | 411 / 10439 |
|                                     |                 |            |                    |                     | 393 / 10000  | 175 / 4430             | 140 / 3581 | 423 / 10739 |
|                                     |                 |            |                    |                     | 401 / 10200  | 175 / 4430             | 140 / 3581 | 431 / 10939 |
|                                     |                 |            |                    |                     | 413 / 10500  | 175 / 4430             | 140 / 3581 | 443 / 11239 |
|                                     |                 |            |                    |                     | 420 / 10700  | 175 / 4430             | 140 / 3581 | 450 / 11439 |
|                                     |                 |            |                    |                     | 432 / 11000  | 195 / 4930             | 160 / 4081 | 462 / 11739 |
|                                     |                 |            |                    |                     | 440 / 11200  | 195 / 4930             | 160 / 4081 | 470 / 11939 |
|                                     |                 |            |                    |                     | 452 / 11500  | 195 / 4930             | 160 / 4081 | 482 / 12239 |



# Features

## Three independent braking systems

- Footbrake hydraulically actuated on drive and load wheels.
- Electric parking brake operating on the drive motor armature shaft. Parking brake will automatically apply when the operator leaves the seat — deadman brake.
- Electric regenerative braking on accelerator pedal release. Electrical energy is returned to the battery and wear on the service brakes is greatly reduced.

## Electric power steering

- Electric power steering with variable torque feedback provides excellent maneuverability with very low, fatigue free steering effort.

## Linde clearview mast design

- The clearview triple mast with tilting carriage and integrated sideshift yields exceptional visibility at all lift heights.



## Safety

- Three independent braking systems
- All wheel braking
- Deadman brake
- Emergency power cut-off (also applies parking brake)
- Keyswitch
- Electric horn
- Electronic and hydraulic overload protection
- Traction isolated by seatswitch
- Parking brake interlock actuates power reduction to allow gradient start without roll back
- Automatic slow down at maximum/ minimum lift and reach
- Polycarbon screen between operator and mast
- Overhead guard
- Dual channel fail-safe circuitry
- Automatic speed reduction above 335 in. lift (8,500 mm).



## Linde operator's compartment

- The advanced design full suspension comfort seat is completely adjustable to operator's size and weight.



## Linde Load Control (LLC)

- The unique Linde Load Control (LLC) system enables accurate, fatigue free, fingertip control of all load movements



## Linde energy management

- Energy saving Linde Digital Control (LDC) provides for smooth, efficient control of traction and load handling together with parameter adjustments and diagnostic capability. Efficient conversion of energy to motion.



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ANSI: Standard truck meets all applicable mandatory requirements of ANSI/ITSDF B56.1 standards for powered industrial trucks.  
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