



Electric Counterbalance Trucks Capacity 1200 – 2000 kg E 12, E 14, E 15, E 16, E 18, E 20

SERIES 386

Safety

Linde ProtectorFrame: The protective overhead guard and its supporting frame together form a strong and completely enclosed protective zone providing optimum structural integrity, safety and protection for the operator. The top mounted tilt cylinders provide seamless, smooth control of the tilt movements for excellent load stability in all operating conditions. This unique design also enables slimmer mast profiles to be fitted for outstanding visibility.

Performance

One would expect a high performance truck to have a high performance traction system – and that is exactly what the Linde compact drive axle and lift system delivers. Powerful motors, maintenance-free brakes and intelligent electronic control form an impressive power pack to deliver the highest levels of efficiency and productivity.

Comfort

Consistently high levels of performance and efficiency for extended periods is only possible if the operator is comfortable. The ergonomic layout of all the controls, the adjustability the armrest and seat, Linde Load Control, and twin accelerator pedals provide the best possible intuitive interface between the truck and the operator.

Linde Material Handling

Linde

Reliability

An electric fork lift truck depends on reliable electronic systems. The Linde electronic control system provides a high level of reliability because of its dual circuit monitoring system and the sealed aluminium housing which provides total protection for the electronics from the ingress of dust and moisture. For additional adaptability a simple programming system enables the performance parameters to be adjusted to meet individual application requirements.

Productivity

Effective in operation, efficient in reducing costs: the unique Linde energy management system ensures intelligent and economical consumption of energy. Energy can also be obtained quickly utilising the optional built-in charging unit or one of the five simple and rapid battery changing methods. The result: more uptime and increased productivity.

Technical data

		E 12	E 14	E 15
Distinguishing mark	Model group	E 12	E 14	E 15
	1.1 Manufacturer (abbreviation)	LINDE	LINDE	LINDE
	1.2 Manufacturer's type designation	E 12	E 14	E 15
	1.3 Drive: electric (battery or mains), diesel, petrol, fuel gas	Battery	Battery	Battery
	1.4 Operator type: hand, pedestrian, standing, seated, order-picker	Seated	Seated	Seated
	1.5 Load capacity/rated load Q (t)	1.2	1.4	1.5
	1.6 Load centre distance c (mm)	500	500	500
	1.8 Load distance, centre of drive axle to fork x (mm)	365	365	365
	1.9 Wheelbase y (mm)	1156 ¹⁾	1301 ¹⁾	1301 ¹⁾
Weight	2.1 Service weight kg	2805	2890	2985
	2.2 Axle loading, laden front/rear kg	3460/545	3765/525	3915/575
	2.3 Axle loading, unladen front/rear kg	1360/1445	1435/1455	1415/1570
Tyres, chassis	3.1 Tyres: solid rubber, superelastic, pneumatic, polyurethane	SE	SE	SE
	3.2 Tyre size, front	18 x 7 - 8 ²⁾	18 x 7 - 8 ²⁾	18 x 7 - 8 ²⁾
	3.3 Tyre size, rear	15 x 4 1/2 - 8 ³⁾	15 x 4 1/2 - 8 ³⁾	15 x 4 1/2 - 8 ³⁾
	3.5 Wheels, number front rear (x = driven wheels)	2x/2	2x/2	2x/2
	3.6 Tread, front b10 (mm)	930	930	930
	3.7 Tread, rear b11 (mm)	168	168	168
	Dimensions	4.1 Tilt of mast/fork carriage forward/backward Grad	5/7	5/7
4.2 Height, mast lowered h1 (mm)		2019 ⁴⁾	2019 ⁴⁾	2019 ⁴⁾
4.3 Free lift h2 (mm)		150	150	150
4.4 Lift h3 (mm)		2800	2800	2800
4.5 Height, mast extended h4 (mm)		3401	3401	3401
4.7 Height of overhead guard (cabin) h6 (mm)		1970	1970	1970
4.8 Seat height/stand height h7 (mm)		908	908	908
4.12 Coupling height h10 (mm)		510	510	510
4.19 Overall length l1 (mm)		2601	2746	2746
4.20 Length to face of forks l2 (mm)		1701	1846	1846
4.21 Overall width b1/b2 (mm)		1090/1050 ⁷⁾	1090/1050 ⁷⁾	1090/1050 ⁷⁾
4.22 Fork dimensions s/e/l (mm)		40 x 80 x 900	40 x 80 x 900	40 x 80 x 900
4.23 Fork carriage DIN 15 173, class/type A, B		2A	2A	2A
4.24 Fork-carriage width b3 (mm)		1040	1040	1040
4.31 Ground clearance, laden, below mast m1 (mm)		89	89	89
4.32 Ground clearance, centre of wheelbase m2 (mm)		96	96	96
4.33 Aisle width for pallets 1000 x 1200 crossways Ast (mm)		3040	3177	3177
4.34 Aisle width for pallets 800 x 1200 lengthways Ast (mm)		3164	3301	3301
4.35 Turning radius Wa (mm)		1349	1486	1486
4.36 Internal turning radius b13 (mm)		-	-	-
Performance data	5.1 Travel speed, laden/unladen km/h	12.5/13.5	16/16	12.5/13.5
	5.2 Lift speed, laden/unladen m/s	0.3/0.5	0.4/0.6	0.3/0.5
	5.3 Lowering speed, laden/unladen m/s	0.58/0.47	0.58/0.47	0.58/0.47
	5.5 Drawbar pull, laden/unladen N	2400/2400	2300/2300	2400/2400
	5.6 Max. drawbar pull, laden/unladen N	6450/6450	9200/9200	6450/6450
	5.7 Gradeability, laden/unladen %	7.7/11.4	7.3/11.0	7.1/10.9
	5.8 Max. gradeability, laden/unladen %	15.6/23.6	22.6/34.7	14.5/22.5
	5.9 Acceleration time, laden/unladen s	6.2/5.4	4.5/4.0	6.5/5.6
	5.10 Service brake	hydr./mech.	hydr./mech.	hydr./mech.
	Electric-engine	6.1 Drive motor rating S2 60 min kW	2 x 3.5	2 x 4.6
6.2 Lift motor rating at S3 15 % kW		5	10	5
6.3 Battery acc. to DIN 43 531/35/36 A, B, C, no		43535 A	43531 A	43535 A
6.4 Battery voltage, nominal capacity K ₅ V/Ah		24/550 (575) ⁹⁾	48/440 (460) ⁹⁾	24/880 (920) ⁹⁾
6.5 Battery weight kg		445	708	676
6.6 Energy consumption acc. to VDI cycle kWh/h		-	6.2	-
Addition data	8.2 Operating pressure for attachments bar	170	180	190
	8.3 Oil volume for attachments l/min	32 ⁸⁾	32 ⁸⁾	32 ⁸⁾
	8.4 Sound level at the driver's ear according to DIN 12053 dB(A)	< 65	< 65	< 65
	8.5 Towing coupling, type DIN	-	-	-
	¹⁾ With lifting mast vertical ²⁾ Optional: pneumatic tyres, 18 x 7 - 8 7 16PR or wrap-around ³⁾ Optional: pneumatic tyres, 15 x 4 1/2 - 8/12PR ⁴⁾ Optional: pneumatic tyres, 16 x 6 - 8/14PR ⁵⁾ Optional: wrap-around tyres ⁶⁾ With 150 mm free lift ⁷⁾ With wrap-around tyre, 18 x 6 b1 - 1074 ⁸⁾ At 80 % nominal pressure (8.2) ⁹⁾ Data between brackets are taken from the ZVEI instruction leaflet on "Use of European-series cells in DIN-standard batteries" (July 2002 edition).			

E 16				E 18		E 20
LINDE	LINDE	LINDE	LINDE	LINDE	LINDE	LINDE
E 16 C	E 16	E 16 L	E 16 H	E 18	E 18 L	E 20 L
Battery	Battery	Battery	Battery	Battery	Battery	Battery
Seated	Seated	Seated	Seated	Seated	Seated	Seated
1.6	1.6	1.6	1.6	1.8	1.8	2.0
500	500	500	500	500	500	500
365	365	365	365	370	370	370
1301 ¹⁾	1409 ¹⁾	1517 ¹⁾	1461 ¹⁾	1409 ¹⁾	1517 ¹⁾	1517 ¹⁾
3095	3060	3075	3340	3295	3270	3335
4100/595	4100/565	4110/565	4205/740	4465/630	4470/605	4785/550
1435/1660	1515/1545	1600/1475	1655/1685	1555/1740	1640/1630	1635/1700
SE	SE	SE	SE	SE	SE	SE
18 x 7 - 8 ²⁾	18 x 7 - 8 ²⁾	18 x 7 - 8 ²⁾	18 x 7 - 8 ²⁾	200/50 - 10 ⁵⁾	200/50 - 10 ⁵⁾	200/50 - 10 ⁵⁾
15 x 4 1/2 - 8 ³⁾	15 x 4 1/2 - 8 ³⁾	15 x 4 1/2 - 8 ³⁾	140/55 - 9 ³⁾	140/55 - 9	140/55 - 9	140/55 - 9
2 x/2	2 x/2	2 x/2	2 x/2	2 x/2	2 x/2	2 x/2
930	930	930	930	965	965	965
168	168	168	172	172	172	172
5/7	5/7	5/7	5/7	5/7	5/7	5/7
2019 ⁶⁾	2019 ⁶⁾	2019 ⁶⁾	2194 ⁶⁾	2019 ⁶⁾	2019 ⁶⁾	2019 ⁶⁾
150	150	150	150	150	150	150
2800	2800	2800	3150	2800	2800	2800
3401	3401	3401	3751	3401	3401	3401
1970	1970	1970	2130	1970	1970	1970
908	908	908	1065	908	908	908
510	510	510	594	510	510	510
2766	2854	2962	2906	2879	2967	2967
1866	1954	2062	2006	1979	2067	2067
1090/1050 ⁷⁾	1090/1050 ⁷⁾	1090/1050 ⁷⁾	1090/1050 ⁷⁾	1172/1050 ⁷⁾	1172/1050 ⁷⁾	1172/1050 ⁷⁾
40 x 80 x 900	40 x 80 x 900	40 x 80 x 900	40 x 80 x 900	45 x 100 x 900	45 x 100 x 900	45 x 100 x 900
2A	2A	2A	2A	2A	2A	2A
1040	1040	1040	1040	1040	1040	1040
89	92	97	97	97	97	97
96	96	96	96	96	96	96
3196	3281	3389	3332	3305	3394	3394
3320	3405	3513	3456	3429	3518	3518
1505	1590	1698	1641	1609	1698	1698
-	-	-	-	-	-	-
16/16	16/16	16/16	16/16	16/16	16/16	16/16
0.4/0.6	0.4/0.6	0.4/0.6	0.4/0.6	0.4/0.6	0.4/0.6	0.4/0.6
0.58/0.47	0.6/0.55	0.58/0.47	0.58/0.47	0.58/0.47	0.58/0.47	0.58/0.47
2300/2300	2300/2300	2300/2300	2300/2300	2300/2300	2300/2300	2300/2300
9200/9200	9200/9200	9200/9200	9200/9200	9200/9200	9200/9200	10000/10000
6.7/10.3	6.8/10.4	6.8/10.4	6.6/9.9	6.2/9.6	6.2/9.6	6.2/9.7
20.6/32.3	20.7/32.6	20.8/32.8	20.1/31.0	18.9/30.0	18.9/30.2	18.6/29.3
4.5/4.0	4.6/4.1	4.6/4.1	4.6/4.1	4.6/4.1	4.6/4.1	4.6/4.0
hydr./mech.	hydr./mech.	hydr./mech.	hydr./mech.	hydr./mech.	hydr./mech.	hydr./mech.
2 x 4.6	2 x 4.6	2 x 4.6	2 x 4.6	2 x 4.6	2 x 4.6	2 x 5
10	10	10	10	10	10	11
43531A	43531A	43531A	43531A	43531A	43531A	43531A
48/440 (460) ⁹⁾	48/550 (575) ⁹⁾	48/660 (690) ⁹⁾	48/700 (700) ⁹⁾	48/550 (575) ⁹⁾	48/660 (690) ⁹⁾	48/660 (690) ⁹⁾
708	856	1013	1118	856	1013	1013
6.4	6.4	6.5	6.6	6.6	6.7	7.4
170	170	170	170	170	170	170
32 ⁸⁾	32 ⁸⁾	32 ⁸⁾	32 ⁸⁾	32 ⁸⁾	32 ⁸⁾	32 ⁸⁾
<65	<65	<65	<65	<65	<65	<65
-	-	-	-	-	-	-



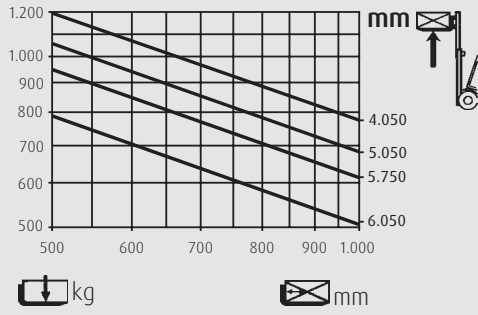
Standard mast (in mm)		E 12/E 15/E 14/E 16 C/E 16/E 16 L/E 18/E 18 L/E 20 L			E 16 H		
Lift	h3	2800	3150	4250	-	3150	4210
Overall height, retracted (to 150 mm free lift)	h1	2021	2196	2746	-	2196	2746
Overall height, extended	h4	3363	3713	4813	-	3713	4813

Duplex mast (in mm)		E 12/E 15/E 14/E 16 C/E 16/E 16 L/E 18/E 18 L/E 20 L			E 16 H		
Lift	h3	2795	3145	3845	-	3145	3845
Overall height, retracted	h1	1946	2121	2471	-	2121	2471
Overall height, extended	h4	3377	3727	4427	-	3727	4427
Special free lift	h2	1343	1518	1868	-	1518	1868

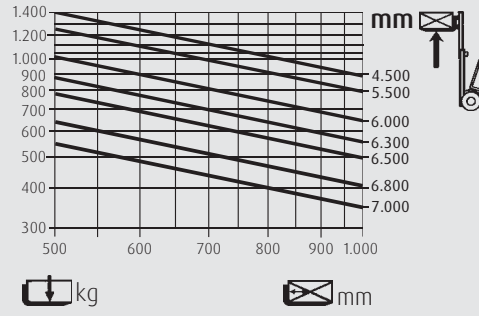
Triplex mast (in mm)		E 12/E 15/E 14/E 16 C/E 16/E 16 L/E 18/E 18 L/E 20 L			E 16 H		
Lift	h3	4100	4625	5475	-	4625	5475
Overall height, retracted	h1	1946	2121	2471	-	2121	2471
Overall height, extended	h4	4702	5227	6077	-	5227	6077
Special free lift	h2	1344	1519	1781	-	1519	1781

Other lift heights on request
 Minimum lift height does not apply to tall vehicle

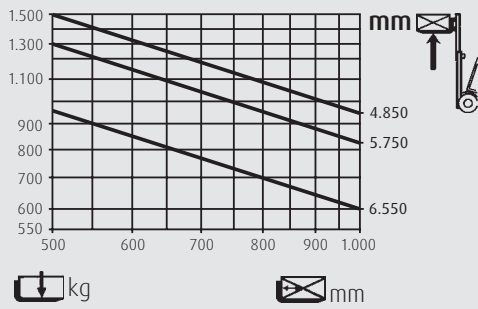
E12



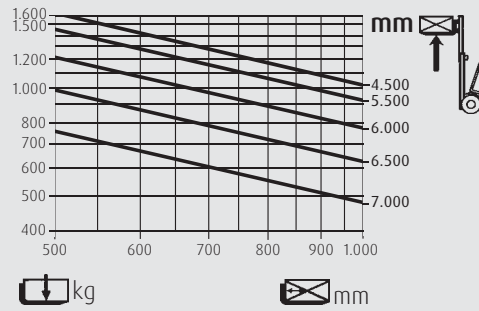
E14



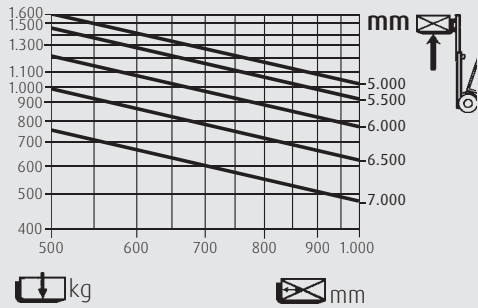
E15



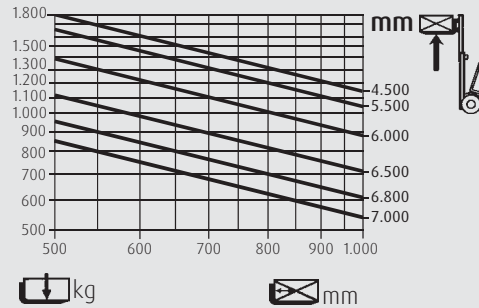
E16/E16C



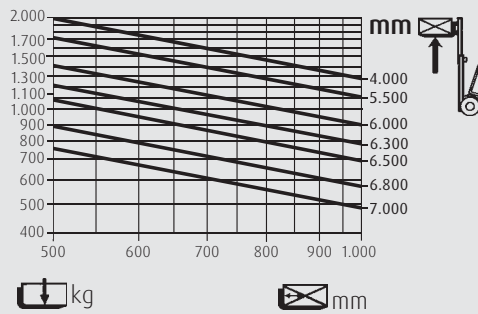
E16L/E16H



E18/E18L



E20L



Standard and optional equipment

Standard equipment

Truck

Hydrostatic power steering
Linde twin accelerator pedals for all vehicle movements
Three wheeled configuration
Dual axis fingertip joystick controls (Linde Load Control) integrated into the adjustable arm rest
2 x 3.5 kW maintenance free AC drive motors (24V E 12, E 15)
2 x 4.6 kW maintenance free AC drive motors (48V E 16 C, E 16, E 16 L, E 16 H, E 18, E 18 L)
2 x 5 kW maintenance free AC drive motors (48V E 20 L)
5 kW AC maintenance free lift motor (24V E 12, E 15)
10 kW AC maintenance free lift motor (48V E 16 C, E 16, E 16 L, E 16 H, E 18, E 18 L)
11 kW AC maintenance free lift motor (48V E 20 L)
Proportional reduction of travel speed when cornering (Linde Driver Assistant)
Seamless electronic control of all traction and hydraulic movements

Standard chassis suitable for working in ISO containers with appropriate mast

Hydraulically adjustable full suspension PVC operator's seat with armrest

Comprehensive digital instrument display

Superelastic tyres

Generous storage facilities for writing materials and miscellaneous items

Battery capacity for flat version (height h₆ = 1,970 mm)

E 12 = 24V/575 Ah, E 15 = 24V/920 Ah, E 14 = 48V/460 Ah,

E 16 = 48V/575 Ah, E 16 C = 48V/460 Ah, E 16 L = 48V/690 Ah,

E 18 = 48V/575 Ah, E 18 L = 48V/690 Ah, E 20 L = 48 V/690 Ah

Raised version for greater battery capacity (height h₆ = 2,130 mm)

E 16 H = 48V/700 Ah

Mast

Clearview standard mast 3,110 mm lift

Fork length 1,000 mm

Fork carriage width 1,040 mm

Options

Single pedal accelerator with forward/reverse selector in the armrest

Standard mast lifts up to 5,610 mm

Duplex mast lifts (full free lift) up to 3,825 mm

Triplex mast lifts (full free lift) up to 6,075 mm

Integrated sideshift

Integrated fork spreader

Tilt cylinder protection

Load guard

Single and double additional hydraulics for attachments

Alternative fork lengths

Alternative fork carriage widths

Polycarbonate top screen on overhead guard

Front and rear screens, wipers and top screen

Full cab with hinged doors

Overhead guard sun blind

Heating (with pollen protection filter)

Radio with cassette player

Fabric covered comfort seat

Super-comfort seat with air suspension, heater and backrest extension

Swivelling seat

Integrated HF charger unit, 2-phase and 3-phase versions, optionally with electrolytic recirculation

Individual hydraulic control joysticks

Scanner terminal docking port

Truck lighting/flashing amber beacon/working lamps

Driving mirror

Full road lighting

Audible reversing alarm

Clipboard

Cold store protection

Alternative colour schemes

Linde Fleet Management (LFM)

Alternative tyre types

Other options available on request

Features

Linde clearview mast design

- with top mounted tilt cylinders for seamless load control and stability
- Excellent view of load and surroundings through the robust yet slim mast profiles
- Nominal capacity retained to maximum lift heights
- High residual capacities in all applications
- Exceptionally stable



Linde hydrostatic power steering

- Progressive steering torque
- Minimal physical demands on the operator
- Compact ergonomically designed steering wheel
- Linde close coupled steer axle for outstanding maneuverability

Linde twin accelerator control

- Seamless, rapid reversing without repositioning the feet
- Short pedal travel
- Fatigue-free working
- Increased throughput and performance

Linde Load Control

- Safe and seamless load handling with millimetre accuracy
- Effortless fingertip control of all mast functions
- Joystick controls integrated into the armrest

Economical AC drive

- Two powerful AC drive motors integrated in the front axle
- Seamless acceleration and variable torque characteristics
- Excellent structural integrity and stability
- Extremely quiet in operation



Linde operator's compartment

- Ergonomically designed for efficient, fatigue-free working
- Spacious operator's compartment with generous floor plate area
- Cushioned comfort – mast and drive axle are isolated from the chassis and cab by a unique resilient suspension system that absorbs shock loadings

Linde compact drive axle

- Twin drive design with high performance Linde AC technology
- Integrate lift motor
- Optimum energy efficiency
- Maintenance-free oil-bath vane brake
- Electronic components housed in sealed unit for complete protection

Linde energy management

- Optimised energy consumption
- Accurate battery condition indicator
- Simple horizontal or vertical battery changing options
- Optional built-in high frequency charger for convenience and flexibility
- Record of battery usage

The manufacturer reserves the right to alter specifications without notice. All dimensions are subject to manufacturing tolerances.