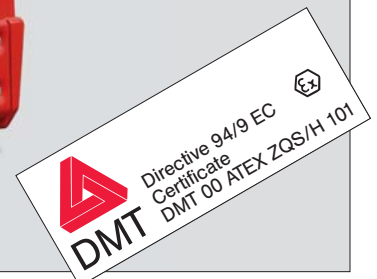


Electric Forklift Trucks for Explosion-hazard Areas 1350 and 1450 kg



E 15 Ex E 16 Ex



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The Linde E15Ex and E16Ex electric forklift trucks designed for use in explosion-hazardous areas, are derived from the standard truck range E15 and E16. These specialised versions therefore incorporate the same optimized performance and quality as the standard-production models: advanced engineering, exemplary ergonomics, long life, and economic operation. The Ex-trucks conform to ATEX European Directive 94/9 EC (EN 1755) or international regulations for use in explosion-hazardous areas. They are **type-tested** by the Institut National de l'Environnement Industriel et des Risques – INERIS, Certificate No. 14383/98. Linde offers Ex-specified trucks for use in the following classified areas:

- Zone 1 II B T4 or T5 Atex to 94/9EC to Ineris Certificate No. 14383/98
- Zone 2 II B T4 or T5 Atex
- Areas requiring explosive materials protection to ZH 1/168

The key components of these explosion-proof trucks are identical with the corresponding standard Linde models. The following description details the modifications incorporated to comply with Zoned applications.

Ergonomic operator compartment

Same standard of comfort as in Linde standard models. Instrument panel with enclosed displays and switches.

Direct drive and powerful brakes

The front drive axle is composed of two motors, each of which directly bolted to a transmission gearbox. This twin-motor design guarantees excellent traction and provides the effect of an electric differential giving superb manoeuvrability. The disc-type brakes act on the high-speed motor shafts and facilitate smooth, finely adjustable deceleration.

Encapsulated motors

The individual type of motor encapsulation fitted corresponds to the other zone for which the truck is intended. Motor cooling is effected by innovative heat sinks integrated in the motor casings and enables these trucks to attain performance figures very close to those of their standard counterparts; the twin-motor drive unit enclosure corresponds to the protection type d.

High-performance electronic controls

Located on top of the counterweight for optimum protection against external damage, Linde developed electronics control travelling, lifting and the power steering installation. They are virtually identical to those of the standard trucks, providing excellent performance data. Since they are built up from the same components, easy service ability and parts availability are guaranteed. Encapsulation according to zone requirement.

Large choice of lift masts

The trucks can be quipped with standard, duplex, and triplex masts of clearview type. Plastic cams on the lift chains protect the mast uprights and lift jacks from damage caused by chain-impact. The fork arms are spark-protected by coating with either brass or high alloy steel.

Standard equipment

- Front wheels driven by separate electric motors with automatic cornering control. Transistorized pulse controller for energy-saving infinitely variable control of travel speed and working hydraulics
- Insulation monitoring as standard for Zone 1; continuous measurement and readout of insulation resistance
- Battery discharge indicator with automatic reduction of lift motor speed at 80% discharge

- Brush wear monitoring on traction and mast function motors
- Fork carriage width $b_3 = 1040$ mm
- Fork length $l = 900$ mm
- Individually adjustable suspension seat
- Standard mast, lift height $h_3 = 3250$ mm
- Explosion-protected battery 48 V/300 Ah (E15) or 48 V/500 Ah (E16)

Optional equipment

- Standard mast with lift height to 5750 mm
- Duplex mast (full free lift), lift height to 4250 mm
- Triplex mast (full free lift), lift height to 6725 mm
- Single or double auxiliary hydraulics for all masts
- Alternative fork lengths
- Fork extensions
- Load backrest
- Hazard flashers
- Driving lights
- Enclosed work lights
- Operator compartment add-ons, from front screen to full cab
- Single drive pedal in combination with manual direction selector
- Separate lift and tilt control levers
- Sideshift
- Battery chargers
- Electric screen wipers

Other options on request.

LINDE

Forklift trucks

Data sheet for material handling equipment

EFG

VDI 2198

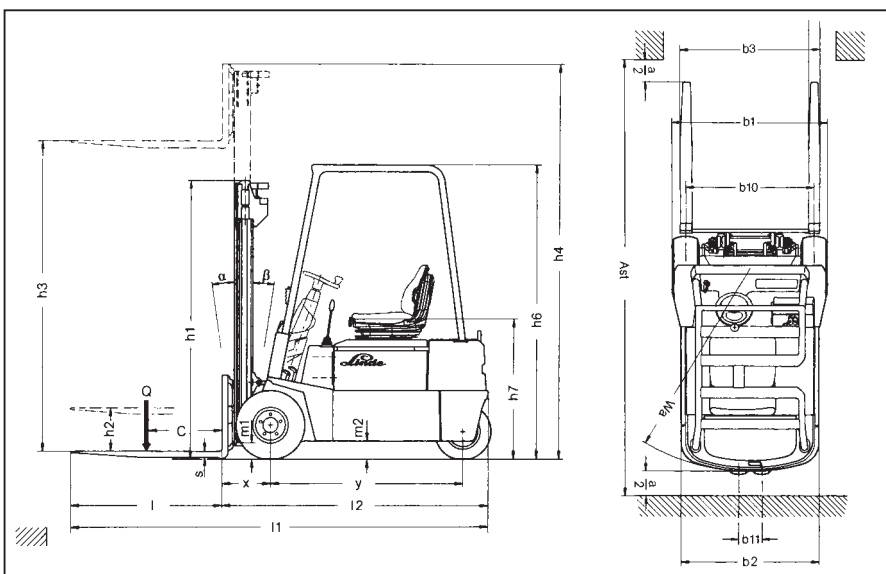
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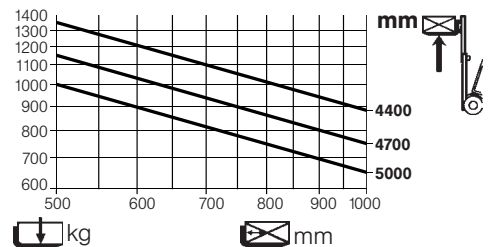
March 2003

		Linde		Linde	
		E 15 Ex		E 16 Ex	
Characteristics	1.1	Manufacturer		Linde	
	1.2	Model designation		E 15 Ex	
	1.3	Power unit: battery, diesel, petrol, LP gas, mains power		Battery	
	1.4	Operation: manual, pedestrian, stand-on, seated, order picker		Seated	
	1.5	Load capacity	Q (kg)	1350	1450
	1.6	Load centre	c (mm)	500	500
	1.8	Axle centre to fork face	x (mm)	450	450
	1.9	Wheelbase	y (mm)	1275	1445
	Weights	2.1	Service weight	kg	2960
2.2		Axle load with load, front / rear	kg	3845/465	4003/492
2.3		Axle load without load, front / rear	kg	1440/1520	1515/1480
Wheels and tyres	3.1	Tyres, front / rear (SE = CS superelastic, P = pneumatic)		SE (P) / SE (P)	
	3.2	Tyre size, front	mm	18 x 7-8 SE	18 x 7-8 SE
	3.3	Tyre size, rear	mm	15 x 4 1/2 - 8 SE	15 x 4 1/2 - 8 SE
	3.5	Wheels, number front / rear (x = driven)		2 x / 2	
	3.6	Track width, front	b10 (mm)	910	910
	3.7	Track width, rear	b11 (mm)	168	168
	Dimensions	4.1	Mast / fork carriage tilt, forward / backward		α/β (Grad)
4.2		Height of mast, lowered	h1 (mm)	2137	2137
4.3		Free lift	h2 (mm)	150	150
4.4		Lift	h3 (mm)	3250	3250
4.5		Height of mast, extended	h4 (mm)	3813	3813
4.7		Height of overhead guard (cabin)	h6 (mm)	1940	1940
4.8		Height of seat / stand-on platform	h7 (mm)	895	895
4.12		Towing coupling height	h10 (mm)	-	-
4.19		Overall length	l1 (mm)	2795	2965
4.20		Length to fork face	l2 (mm)	1895	2065
4.21		Overall width	b1/b2 (mm)	1083	1083
4.22		Fork dimensions	s/e/l (mm)	46 x 86 x 900	46 x 86 x 900
4.23		Fork carriage to DIN 15 173, class / form A, B		2 A	2 A
4.24		Width of fork carriage	b3 (mm)	1040	1040
4.31		Ground clearance, mast	m1 (mm)	70	70
4.32		Ground clearance, centre of wheelbase	m2 (mm)	-	-
4.33	Aisle width with pallets 1000 x 1200 across forks	Ast (mm)	3222	3392	
4.34	Aisle width with pallets 800 x 1200 along forks	Ast (mm)	3345	3515	
4.35	Turning radius	Wa (mm)	1445	1615	
4.36	Minimum between the centres of rotation distance	b13 (mm)	-	-	
Performance	5.1	Travel speed, with / without load	km/h	10 / 11	11 / 12
	5.2	Lifting speed, with / without load	m/s	0.30 / 0.40	0.30 / 0.40
	5.3	Lowering speed, with / without load	m/s	0.50 / 0.50	0.50 / 0.50
	5.5	Tractive force, with / without load	N	1488 / 1751	1520 / 1717
	5.6	Maximum tractive force, with / without load	N	4542 / 4685	5906 / 6045
	5.7	Climbing ability, with / without load	%	5.3 / 8.9	4.8 / 8.2
	5.8	Maximum climbing ability, with / without load	%	11.3 / 18.1	14.4 / 23.5
	5.9	Acceleration time, with / without load	s	-	-
	5.10	Service brake		mechanical/electrical	mechanical/electrical
	Drive	6.1	Drive motor (S2 60 min.)	kW	2 x 3
6.2		Lift motor (S3 15 %)	kW	8.1	8.1
6.3		Batterie according to IEC		254-2	254-2
6.4		Battery voltage, rated capacity (K 5)	V/Ah	48 / 345	48 / 575
6.5		Battery weight	kg	649	951
6.6		Power consumption in acc. with VDI cycle	kW/h	-	-
Other	8.1	Type of drive control		digital control/stepless	digital control/stepless
	8.2	Working pressure for attachments	bar	200	210

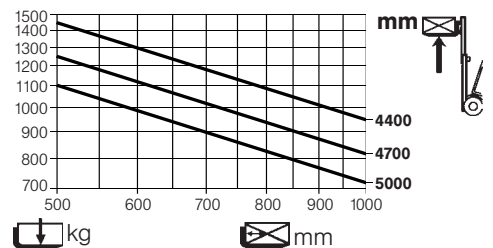
Subject to modification in the interests of progress. Illustrations and technical details not binding for actual construction. All dimensions subject to usual tolerances.



E 15 Ex



E 16 Ex



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