

Linde Material Handling

*Linde*

# CHAMPIONS IN EVERY DISCIPLINE

The Linde E14 – E20 and Xi10 – Xi20  
electric forklift trucks for payloads  
from 1.0 to 2.0 tons



**EXCEPTIONAL VIEWS**

Narrow aisles, blind intersections, high throughput: To ensure that your in-house transport is always safe under these conditions, we have consistently optimised the view from our electric forklifts. For example, an especially narrow A-pillar and the nested lift mast profiles provide an excellent view on the load and the surrounding area. In addition, the lowered front panel improves the view onto the forks and the load on them. The optional strut-free panoramic armoured glass roof rounds off the package of measures.



**EXCELLENT SAFETY**

The Linde E14 – E20 and Linde Xi10 – Xi20 have been developed to ensure optimal safety for personnel and goods in any situation. Among other things, the overhead tilt cylinders in combination with the torsion-resistant mast design and low center of gravity of the vehicle ensure safe load handling, even at high lifting heights. In addition, all electric forklift trucks are equipped with safety systems as standard, such as Linde Curve Assist, which automatically adjusts the speed when cornering. A range of lighting, warning and assistance systems can also be ordered as an option.



**SUPERB SHOCK ABSORPTION**

The Linde E14 – E20 and Linde Xi10 – Xi20 electric forklift trucks make work more pleasant than ever before for your employees. This is mainly due to the comprehensive shock absorption concept with elastomer ring bearings. For this purpose, the steering axle, mast and drive axle are decoupled from the chassis. As a result, operators experience noticeably fewer vibrations when running over bumps or guide rails, for example. A clear win-win situation, since reduced physical stress also leads to healthier employees in the long-term.



**THE NEW GENERATION**

**THE MAXIMUM PERFORMANCE AS STANDARD**

In a nutshell, a forklift truck should deliver the maximum performance in every application. That is why we have consistently developed our compact Linde E14 – E20 and Linde Xi10 – Xi20 electric counterbalanced forklift trucks according to the maximum principle. This is where a unique range of models meets demonstrably superior performance, outstanding safety and excellent ergonomics. The bottom line is that this setup gives you the most productive and economical vehicle for your application.



**DESIGNED TO SERVICE**

To keep service costs to a minimum, we have designed our latest generation of electric counterbalanced forklift trucks to be particularly robust and low-maintenance. For example, the drive axle, along with the integrated electric motors and converter, forms a unit that is completely sealed against dust and water. In addition, all service-relevant components can be accessed easily and therefore quickly. An overall inspection of the trucks is required after 1000 operating hours, while the first hydraulic oil and hydraulic oil filter replacement is required only after 6000 hours.

**DIGITAL FOR THE FUTURE**

The system architecture and sensor technology of the new Linde E14 – E20 and Linde Xi10 – Xi20 have been designed so that the vehicles can be seamlessly integrated into digital processes and IT systems. This includes, for example, connection to fleet management solutions or service applications. Furthermore, it is possible to install software update over the air or if necessary, to activate new vehicle features. Data can be transferred via Wi-Fi or mobile networks for the Linde E14 – E20 (optional) and Linde Xi10 – Xi20 (standard) models.

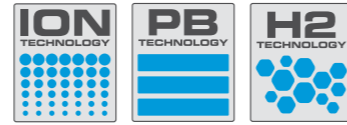
**MOST EXTENSIVE RANGE IN THE MARKET**

A total of 26 variants are available for the Linde E14 – E20 and Linde Xi10 – Xi20 models: Thanks to the various battery capacities, chassis sizes and steering axle configurations (page 6), each user receives the optimal configuration to meet their requirements.



## THE QUINTESSENTIAL OF ELECTRIC FORKLIFT TRUCKS

# LINDE E14 – E20



For the most precious assets in intralogistics—time and space—absolute experts are needed. And it is precisely these that we offer you in the form of our Linde E14 – E20 models. With their exceptional maneuverability and extremely compact design, you can also handle very confined storage or production environments with ease. The competence profile is complemented by strong driving performance and maximum flexibility in terms of energy systems.

### FAST AND READY TO USE AT ANY TIME

Size is not an indicator of performance – in fact, quite the opposite: Thanks to the powerful asynchronous motors, the Linde E14 – E20 achieves a top speed of up to 20 km/h. In turn, this increased speed compared to its competitors provides the ideal basis for improved handling performance. To ensure maximum availability of the trucks, we have designed the units to be completely maintenance-free and combined them with our proven 48-V technology. The latter ensures a perfect balance of performance, energy efficiency and economy.



### SYSTEMATIC FLEXIBILITY

Proven lead-acid batteries, highly efficient Li-ION systems or innovative fuel cell technology: When it comes to selecting the right energy system to meet your requirements, the Linde E14 – E20 leaves nothing to be desired.

Another advantage is our intelligent plug-and-play principle, which allows you to continue using existing forklift truck batteries or switch between lead-acid and Li-ION energy storage devices without having to convert the device to this effect.

Lead-acid batteries can be easily replaced in multi-shift applications using a forklift or electric pallet truck, thanks to the side battery door and the open-bottom frame. The hinged battery cover also enables a daily visual inspection of the lead-acid battery without having to remove it from the vehicle.

An optional high-frequency on-board charger enables intermediate charging of Li-ION batteries immediately and as required.

## MADE FOR ANYTIME AND ANYWHERE

# LINDE Xi10 – Xi20



It must excel indoors, but also perform perfectly outdoors. It must handle intensive applications, but also be highly efficient. And despite this robustness, comfort should not be neglected. With such an extensive profile of requirements, this is where the Linde Xi10 – Xi20 comes in. The high-performance model with permanently integrated Li-ION battery delivers power at IC forklift truck level from 1.0 tons. Eliminating the battery tray also makes it the most comfortable counterbalanced forklift truck in this segment.



### PERFORMANCE WITHOUT IFS AND BUTS

- In terms of performance, the Linde Xi10 – Xi20 drives in a league of its own – and provides tangible benefits.
- The models achieve lifting and lowering speeds that are up to 20% higher than the industry average and reach top speeds of up to 20 km/h.
- Uncompromising performance results from the combination of advanced Li-ION batteries, powerful 90-V technology and newly developed synchronous reluctance motors. The latter are already used in the “large” Linde E and X forklift trucks.
- Since the synchronous reluctance motors are extremely energy-efficient, they generate low levels of waste heat – even in the case of constant maximum loads in intensive 24/7 applications. The full driving and lifting capacities can therefore be put to continuous use.

### ERGONOMIC LIKE NEVER BEFORE

For the first time, the Linde Xi10 – Xi20 has a fully integrated Li-ion battery, which is available in various capacities up to 32 kWh. So far, so technical. However, this special design also brings concrete added value for your forklift truck personnel.

- By eliminating the usual battery tray, we have been able to significantly increase the size of the access step and also lower it. This means that even getting on and off the forklift truck on a regular basis becomes noticeably easier and safer.
- At the same time, the permanent installation of the energy storage device enables new possibilities for interior design, meaning that drivers benefit from a particularly spacious footwell and increased headroom.

Footwell is **35%** larger than the industry average

**Li-ION** battery fully integrated



Access step is **22%** lower than the industry average

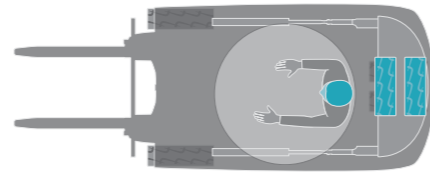
LINDE E14 – E20 | LINDE Xi10 – Xi20

# VARIETY AT ITS BEST

On the way to achieving maximum productivity and economy, the following applies: The more precisely the trucks are adapted to the specific requirements of the flow of goods, the better. That's why you can choose from an impressive range of variations for our Linde E14 – E20 and Linde Xi10 – Xi20 models – with three or four wheels, different battery sizes, heights, steering axles and load capacities. In total, the portfolio comprises a total of 26 variants.

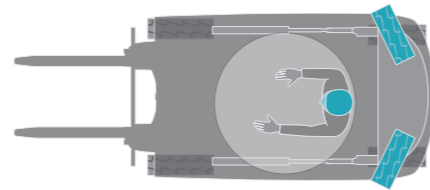
## THREE-WHEELED VARIANT WITH TURNTABLE STEERING AXLE

Linde three-wheeled forklift trucks use the proven turntable axle. The advantages of this variant are apparent in applications in halls where maneuverability is particularly important.



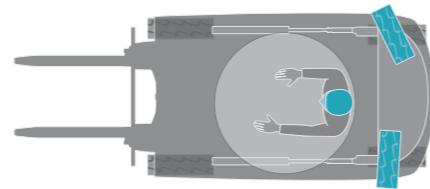
## FOUR-WHEELED VARIANT WITH LINDE COMBINED STEERING AXLE

Thanks to the combined steering axle developed by Linde, the four-wheeled forklift trucks have almost the same maneuverability as three-wheeled devices, while also offering maximum stability. This is ideal equipment for indoor and outdoor use.



## FOUR-WHEELED VARIANT WITH LINDE PENDULAR STEERING AXLE

The pendular axle, which has been proven in Linde's IC forklift trucks, combines a low center of gravity of the vehicle and a high level of robustness. This makes it ideal for use outdoors, including on uneven surfaces.



Model overview

	THREE-WHEELED VERSION			FOUR-WHEELED VERSION					
	E14 – E20			Xi10 – Xi20	E16 – E20 P with Linde combined steering axle		Xi16 – Xi20 P with Linde combined steering axle	Xi16 – Xi20 PH with Linde pendular steering axle	
up to 1.0 t				Xi10					
up to 1.2 t				Xi12					
up to 1.4 t	E14			Xi14					
up to 1.6 t	E16 C	E16	E16 L	Xi16	E16 P	E16 PH	Xi16 P	Xi16 PH	
up to 1.8 t		E18		Xi18	E18 P*	E18 PH	Xi18 P	Xi18 PH	
up to 2.0 t		E20*	E20 L	Xi20	E20 P*	E 20 PL	E20 PH	Xi20 P	Xi20 PH

C = the compact variant — for narrow aisles  
L = the long variant — space for a large battery  
P = the four-wheeled variant — for maximum stability  
H = the high variant — for a high driver's seat position

\*New

LINDE E14 – E20 | LINDE Xi10 – Xi20

# SUPERIOR PERFORMANCE

Maximum handling performance, efficient energy consumption, minimum service costs and a high resale value: The Linde E14 – E20 and Linde Xi10 – Xi20 prove to be the most economical solutions on the market. They also offer the best total operating performance in their individual applications.

A TÜV Nord-certified performance test has confirmed that the Linde E14 – E20 and Linde Xi10 – Xi20 are the world's most powerful electric forklift trucks. They were both compared against the main competition models.

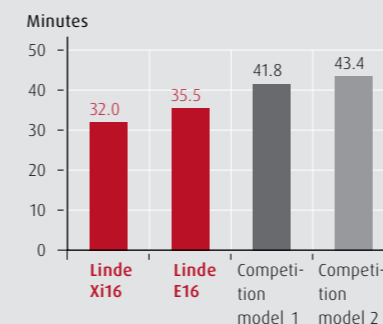
The results are clear: Our new electric forklift trucks are superior to the models of our competitors in various areas, and offer you the best performance and economy for payloads of up to two tons.

As is customary in such tests, the vehicles had to complete defined workflows under identical conditions. The time required and real consumption were measured.



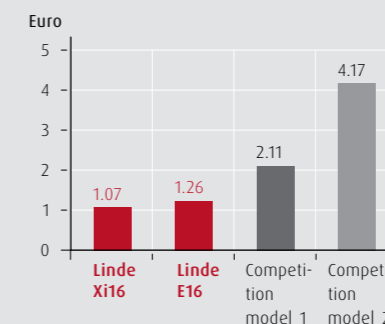
The performance and cost results of the TÜV Nord-certified performance test

Time per truck<sup>1)</sup>



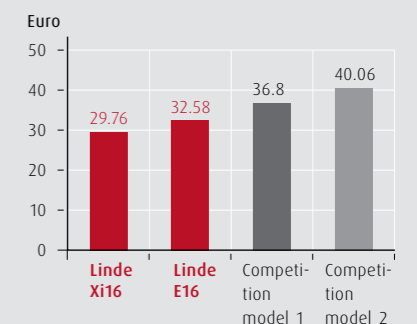
<sup>1)</sup> 56 pallets per truckload

Energy costs per truck unloading<sup>2)</sup>



<sup>2)</sup> Average price per kilowatt hour of 0.30 euros

Total costs per truck unloading<sup>3)</sup>



<sup>3)</sup> Purchase price plus personnel, energy and service costs

### **Linde Material Handling GmbH**

Linde Material Handling, a company of the KION Group, is a leading global manufacturer of forklift trucks and warehouse equipment as well as a solution and service provider for intralogistics. With sales and service locations in more than 100 countries, we are close to our customers in all key regions around the world.

With over 100 years of experience in providing material handling solutions to companies from virtually all industries, we help our customers optimize their entire material handling process. Our experts analyze all work processes from incoming goods through to outgoing goods and work together with the customer to develop solutions that fully meet their individual requirements. Linde Material Handling guarantees smooth implementation, reliable commissioning and responsive service.

For more information, visit: [www.linde-mh.com](http://www.linde-mh.com)



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