

Give your throughput a strong boost

We offer you a wide range of reach trucks for just that – so you can quickly increased your valuable throughput times by up to 30 %.

 **JUNGHEINRICH**
Machines. Ideas. Solutions.





You can trust our new technologies, which are again setting the standards. We have experience of doing just that for 60 years.

Our reach trucks are setting new standards: In throughput with higher acceleration, as well as faster lift and reach speeds. In energy consumption with superb overall performance. And you will save up to 30 % in time.

Enhanced safety and efficiency

For 60 years our reach trucks have been stacking and transporting both reliably and powerfully in the warehouses of the world. Today one in three reach trucks carries the Jungheinrich brand. The reason is simple: because they run reliably on and on... they prove to be extremely profitable for our customers. So why not take advantage of this efficiency? Turn the benefits of our reach trucks to your own advantage.

Top-quality hydraulic system

Hydraulic plug connections with minimum resistance reduce energy consumption between the pump, valves and hydraulic cylinders. The advantage: High pump speeds ensure optimum efficiency levels for numerous tasks.

First-rate motor output

The first-rate output of our drive and lift motors means more than just high voltage levels and speeds. For us, first-rate motor output also includes:

- Always providing the correct solution for minimum energy consumption
- High quality motor development in our own plant by experienced engineers
- Energy recovery during braking with energy fed back to the battery

First-rate motor output means maximum efficiency. This ensures an extremely long service life for your trucks, even under the harshest operating conditions.

Maximum functional reliability

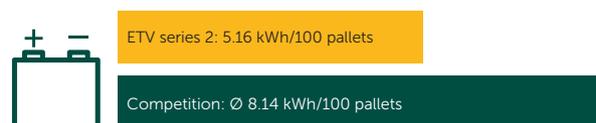
Controllers with fully encapsulated electronics (to IP 54) as well as sealed connector systems ensure maximum functional reliability. The advantage: reliable long-term operation under all conditions. The travel and lift control electronics are also encased in a sealed housing, which guarantees the best thermal properties with regard to thermal losses.

Everything from a single source

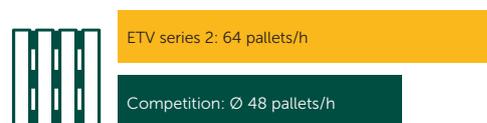
The software, motors and controllers developed and manufactured in-house are perfectly matched and ensure maximum performance with minimum energy consumption.

Maximum energy efficiency to save you money

Energy consumption



Throughput



Consumption and pallets transported per hour according to VDI 2198, compared to the competition (average value).

Do you have specific lift heights, capacities and aisle widths in mind?

We have the right solution for you in our portfolio.



Series 1

Compact chassis for the narrowest aisle widths

Series 2

Maximum performance with minimum energy consumption.

	ETV 110	ETV 112	ETM 214	ETV 214
Capacity (kg)	1,000	1,200	1,400	1,400
Lift height (mm); min./max.	4,550/7,100	4,550/7,100	4,550/9,020	4,550/10,700
Aisle width (mm)	2,455	2,494	2,568	2,529



Series 3

Lifting the heaviest loads
to the greatest heights

ETM 216	ETV 216	ETV 318	ETV 320	ETM 325	ETV 325
1,600	1,600	1,800	2,000	2,500	2,500
4,550/9,020	4,550/10,700	4,250/11,510	4,250/13,000	4,250/9,110	4,250/13,000
2,589	2,584	2,605	2625	2,792	2,742

Every operator sits, drives, steers, controls, works differently. That's why we've included a number of great ideas.

Productivity-enhancing ergonomics

The low entry height ensures easy entry, making the operator's first contact with our reach trucks a pleasant experience right from the start. The generous footwell enhances the operator's overall comfort level. The seat has three adjustable positions with high absorption of vibrations to offer the optimum setting options to every driver. The adjustable steering wheel and storage compartment for personal effects and work material complete the ergonomic experience.

Low-vibration operator's seat

The low-vibration design of seat–seat cover–seat support guarantees increased productivity due to longer operating times – without exceeding limit values.

Maximum ease of handling

Our reach trucks offer you effortless handling of both truck and load: with intuitive control of the hydraulic lever and travel direction switch, automotive-style pedal arrangement and a short wheelbase. All of this helps make the operator's working day noticeably easier.

Comfortable steering wheel position when travelling in a straight line

When travelling straight ahead, the steering wheel spinner knob is always positioned at the ergonomically ideal 9 o'clock position. Irrespective of whether the steering wheel was moved when the truck was switched off or was turned further in 180° steering mode. The steering control always returns the spinner knob back to the optimal position travelling straight ahead.

SOLO-PILOT control lever

Integrated in the armrest, the SOLO-PILOT control lever ensures precise control of the travel/lifting functions by fingertips alone. The switches and levers are allocated in conventional manner to provide a single control function.

MULTI-PILOT control lever (optional)

The MULTI-PILOT has a layout similar to a joystick. All functions are comfortably situated for the operator's hands. MULTI-PILOT is the ideal control option for maximum stacking and retrieval performance.



SOLO-PILOT



MULTI-PILOT



Jungheinrich Curve Control for optimum safety while cornering

Jungheinrich Curve Control automatically reduces the travel speed when cornering, depending on the degree of the steer angle. Electric braking engages and keeps centrifugal forces at a constant low level. The advantage: maximum safety with optimum utilisation of truck performance.

The best basis for fast and reliable stacking

- Extremely stable mast with the highest residual capacities (1,000 kg up to a lift height of 13 m for the ETV 325).
- Maximum lift speeds, even with rated load.
- Mast reach damping system (optional) to prevent time-consuming mast sway during stacking and retrieval. Market leading closed height/lift height ratio for applications with low overhead clearance heights.

Good visibility for quality work

- Narrow roof supports for excellent all-round visibility.
- 100 % clear view with panorama roof panel (optional).
- Wide visual range at the mast for optimum view of the forks and load.
- Spotlight on the fork carriage (optional) for optimum visibility even at high lift heights in dark conditions.
- Video camera (optional) with additional colour display.

Residual time display to protect the battery

The battery residual time display indicates in hours and minutes when the battery will need recharging. When the last bar goes out, the lift function is automatically deactivated and the truck reduces its travel speed – although the drive and mast reach functions required for changing the battery will remain available. Thus the risk of dangerously draining the battery is significantly reduced.

The battery can be easily released or locked at the touch of a button

Just touch the button and the mast moves into position for unlocking the battery. After the battery is charged or replaced, it's just as easy: Simply pull back the mast and the battery is already locked in place again.



Well informed at all times via the operator display

The operator display unites a number of functions in one control panel. Function keys with one clear function, indicator lights and an LCD display provide the operator with access to all the performance parameters, to remain in control of any situation.

Handle for safe entry/exit

Adjustable steering wheel

Location for refreshments or personal effects

Generous footwell

Low entry/exit height

Three adjustable travel programmes for every application. The programmes can be changed at any time by the operator.

Profile 1: For transporting especially sensitive goods or driving in sensitive environmental conditions.

Profile 2: For average speeds and maximum uptime.

Profile 3: For maximum acceleration, travel/lift speed and throughput.



Direct access to storage trays

Wide armrest

More free space
to the left and right
of the seat

Low-vibration seat

Shoulder
protection

JUNGHEINRICH
ETV 216



PK 04
JUNGHEINRICH

JUNGHEINRICH

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How much performance do you really need?

What pays off most quickly?

We give you the answers.

Options package

Efficiency:

Ideal for saving energy during both driving and lifting.

Your requirement:

- Long operating times available with just one battery.
- Excellent productivity.

Advantages of efficiency:

- Optimum motor design for travel and lifting.
- No reach truck consumes less energy.

Options package

Drive Plus:

Ideal for powerful acceleration and highest travel speed.

Your requirement:

- Long routes.
- High travel speed.

Advantages of Drive Plus:

- Powerful 6.9 kW drive motor.
- Switch between steering types 180° and 360° at the touch of a button.

Options package

Lift Plus:

Ideal for maximum lift speed.

Your requirement:

- Fast pallet throughput, even with high lift heights.

Advantages of Lift Plus:

- Maximum lift speed, even with rated load.
- High-performance pump motor with 14.0 kW of power.
- Simultaneous fork lift and reach.
- Precise control of lift function.

Options package

Drive & Lift Plus:

Ideal for maximum throughput with optimum energy efficiency.

Your requirement:

- Long routes at high travel speeds.
- Fast pallet throughput, even with high lift heights.

Advantages of Drive & Lift Plus:

- Maximum throughput with low energy consumption.
- Powerful 6.9 kW drive motor.
- Switch between steering types 180° and 360° at the touch of a button.
- Maximum lift speed, even with rated load.
- High-performance pump motor with 14.0 kW of power.
- Simultaneous fork lift and reach.
- Precise control of lift function.



Performance data for options packages

Series 1	ETV	Efficiency	
		110	112
Travel speed	km/h	11	11
Drive motor	kW	4.5	4.5
Lift speed			
Rated load	m/s	0.49	0.45
Lift motor	kW	11.5	11.5
Energy consumption per VDI at 35 operations/h, nominal load	kWh/h	2.65	2.88
Max. throughput (VDI operations)	t/h	44	53
Energy consumption at max. throughput	kWh/h	2.71	2.88

Series 2	ETM/ETV	Efficiency		Drive Plus		Lift Plus		Drive & Lift Plus	
		214	216	214	216	214	216	214	216
Travel speed	km/h	11	11	14	14	11	11	14	14
Drive motor	kW	4.5	4.5	6.9	6.9	4.5	4.5	6.9	6.9
Lift speed with nominal load	m/s	0.38	0.35	0.38	0.35	0.51	0.48	0.51	0.48
Lift motor	kW	11.5	11.5	11.5	11.5	14	14	14	14
Energy consumption per VDI at 35 operations/h, nominal load	kWh/h	3.21	3.48	3.3	3.51	3.35	3.77	3.44	3.86
Max. throughput (VDI operations)	t/h	57.3	64.4	60.0	67.7	61.4	69.3	64.1	72.6
Energy consumption per VDI at max. operations, half nominal load	kWh/h	2.97	3.11	3.25	3.37	3.4	3.5	3.68	3.76

Series 3	ETM/ETV	Efficiency		Drive Plus	Lift Plus	Drive & Lift Plus		
		318	320	318	318	318	320	325
Travel speed	km/h	11	11	14	11	14	14	14
Drive motor	kW	4.5	4.5	6.9	4.5	6.9	6.9	6.9
Lift speed with nominal load	m/s	0.32	0.30	0.32	0.46	0.46	0.44	0.41
Lift motor	kW	11.5	11.5	11.5	14	14	14	14
Energy consumption per VDI at 35 operations/h, nominal load	kWh/h	4.1	4.37	4.19	4.23	4.32	4.52	4.96
Max. throughput (VDI operations)	t/h	67.6	77.9	69.7	70.7	72.8	85.4	99.2
Energy consumption per VDI at max. operations, half nominal load	kWh/h	3.41	3.54	3.65	3.77	4.01	4.15	4.28

Do you have specific requests and requirements?

You can be sure we will have the right solution for you:

The right truck width for your needs with ETV or ETM version

The ETV version offers the option of lifting Euro pallets between the reach legs. That means the first racking beam can be located at a lower position and available space can be used more efficiently. The ETM version has a narrow design, which offers advantages for drive-in racking or block storage.

Fast, easy and reliable stacking and retrieval with Position Control (optional)

Just press the SNAP button: The lift speed is reduced briefly. Then the next racking beam is approached automatically and the load stops precisely at the required lift height. The correct height is detected either with or without a load.

Stacking/retrieval with video monitoring (optional)

Our video camera gives you precise, rapid access to extremely high locations. The position of the camera on the forks enables your operators to efficiently and reliably control the stacking/retrieval from their convenient seating position/viewpoint. They do not have to look up, which noticeably reduces the strain on their shoulders and neck.

Wireless data processing (optional) for up-to-date stock details

Data radio connection allows for wireless data transfer. Radio data terminal with intuitive operation ensures error-free work in real time without paperwork.

Rack height select with Warehouse Control (optional)

Our Warehouse Management System (Jungheinrich WMS) automatically transfers the target lift height to the truck control system. All the operator has to do is activate the lift function. The truck automatically performs fine positioning of the lift height. This makes stacking in the wrong location because the wrong rack height was approached practically impossible.

Weight control at the touch of a button (optional)

The weighing function provides reassurance that the residual capacity has not been exceeded. The weight (50 kg tolerance range) appears on the monitor at the touch of a button.

Fastest possible mast reach with Lift Control (optional)

Sensor rollers in the mast and pressure sensors in the hydraulic circuit provide data for calculating the maximum reach speed for the mast. The speed for the mast reach is then maximised depending on the lift height and load weight. This optimised reach speed further boosts throughput by up to 13%.

Continuous monitoring of load capacity limit with Operation Control (optional)

Operation Control ensures the maximum permitted admissible load weight is never exceeded. The lift height and load weight are continuously monitored and displayed. When the limit capacity is reached, a warning tone sounds and a warning symbol lights up.

Spotlights on the fork carriage for optimum visibility (optional)

In dark environments, spotlights on the fork carriage provide the best visibility, even at high lift heights.

100 % clear view with panorama roof panel (optional)

Maximum visibility: The panoramic roof panel without the interference of cross beams provides maximum clear visibility of the load and forks.

Switching option from 180° to 360° steering ensures the best steering response for the application (optional)

With the option of selecting steering between 180° and 360°, we can offer you the right solution for every application. Each type of steering has its own strengths. You can switch the steering mode at the touch of a button whenever required, even while driving. This allows you to adapt steering perfectly to match every application.

Optimum traction with ASC drive anti slip control (optional)

Optimum traction is ensured with braking of the drive wheel, which would spin on wet or dusty floors.

Advantages:

- Powerful acceleration and high throughput speed despite wet or dusty conditions.
- Reliable steering response.
- Excellent directional stability.
- Less wear on the drive tyre.

Automatic crawl speed with Drive Control (optional)

Drive Control limits acceleration and maximum travel speed (adjustable from 1.4 to 10 km/h). This increases safety when manoeuvring with a raised pallet in front of the storage rack, while still ensuring more sensitive manoeuvring during the work cycle.

Limit switch system (optional) for fork protection

The limit switch system prevents damage to the load, support arms or forks for applications with attachments. When being lowered, retracted or extended, the forks are automatically stopped in an end position. This prevents a collision with the support arms.

Mast reach damping system (optional)

Our mast reach damping system prevents mast sway during stacking and retrieval. This saves you tedious and costly positioning time.

Energy recovery during lowering (optional)

Our energy recovery system enables the hydraulic motor to function as a generator during lowering. Advantages:

- every fourth lift is undertaken with recovered energy – free energy, in other words!
- As a result, uptime and battery life are considerably extended.

Speed at the touch of a button (optional)

Quick, easy and reliable positioning at the touch of a button: central positioning of the sideshift and horizontal alignment of the fork. There is no time consuming “feeling your way” to the required position.

Maximum performance at low temperatures with cold store equipment (optional)

The flow of goods remains flexible and on the move even at –30 °C with our cold store equipment. Special equipment also provides reliable protection for the operator (heated leather seat, etc.). Trucks are protected against corrosion by a special powder coating. The cold store cab is recommended for continuous use in cold store applications.

ISM Online information system for truck management (optional)

ISM Online is a system for analytical collecting, monitoring and evaluation of data for a wide range of truck types. It can be used at multiple locations, internationally and is manufacturer independent. The intuitive Web application, which offers a number of reporting options, combines both commercial data (master and contract data) and technical data from the truck fleet. The advantage: maximum data transparency and cost-optimised structuring of truck fleets.



**The original.
From the inventor
of reach mast technology.
ETM/ETV series 1/2/3.**



Yes or no?

Investment decisions are simple, but not straightforward. We produce facts that make it easier for you:

BestInvest

Our reach trucks reduce your long-term operating costs by up to 20%. With a wide range of technological and ergonomic advantages that reduce the expenses making up the Total Cost of Operations (TCO) to minimum levels, from purchase to disposal. We call this promise BestInvest. It helps you transform your costs into profitable investments. So that you can make the best total investment decision.

Explosion protection for hazardous areas

Many industrial sectors are subject to a high level of explosive hazard due to flammable gases, fumes, powder or dust. To meet these special requirements and to guarantee safe operation, we can supply explosion-proof electric fork lift trucks in accordance with Directive 94/9/EC (also referred to as ATEX 95).

The best way to optimise space utilisation

Reach mast technology saves space – that's the formula for the success of our reach trucks. After the load is picked up with "forward reach", the mast with the load is "pulled back" between the front and rear axles. The truck shortens itself by up to 600 mm and pulls the load into the contours of the vehicle for secure transportation. This reduces the required aisle widths between shelves. And the narrower the aisles, the more space there is for racking over the same floor area.

Your one-stop energy provider

More energy through synergy. In keeping with this motto, we can offer you trucks, batteries and chargers from a single source. A system adapted 100% to your operating conditions. The advantage: maximum truck availability and an economical energy supply designed for specific needs. Your batteries, your budget and the environment will thank you.

The right racking for the right truck

We can provide you with the complete solution for this: Integrated warehouse planning, where the racking and the trucks work "hand in hand" as parts of a single system. From project planning through CAD drafting to handover. From modular racking systems through system platforms to high-bay racking. From consultancy through installation to service. We offer a one-stop shop.

100% customised vehicles

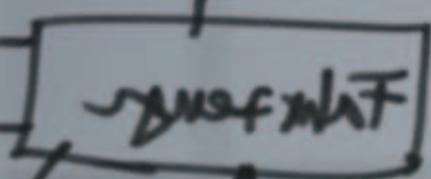
Special applications require special trucks. This is especially true for factors to which the standard trucks cannot easily adapt, such as company-specific transport operations, unusual goods or complicated layouts. We offer customised adaptations for specific applications. Quality and cost-effectiveness from series production are combined with your personal requirements. The consistent modular design of our entire product line makes this possible.

In-house financial services

We offer you a wide range of tailored solutions to suit your commercial, financial and balance sheet requirements – even if these should change over time. This will allow you to keep on the move and respond flexibly. Your area sales manager will be happy to work out which solution is best suited to your needs.



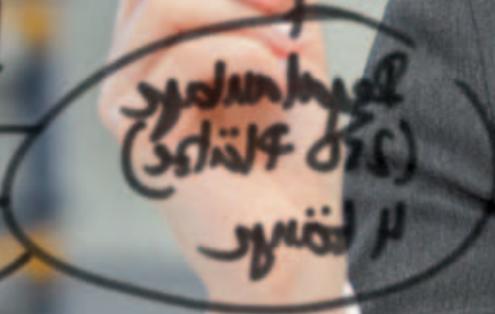
Echt. Verantwortl.?



Funktions
Lernin

+A
+B

Planu
Inq
prob



Service with the manufacturer's expertise

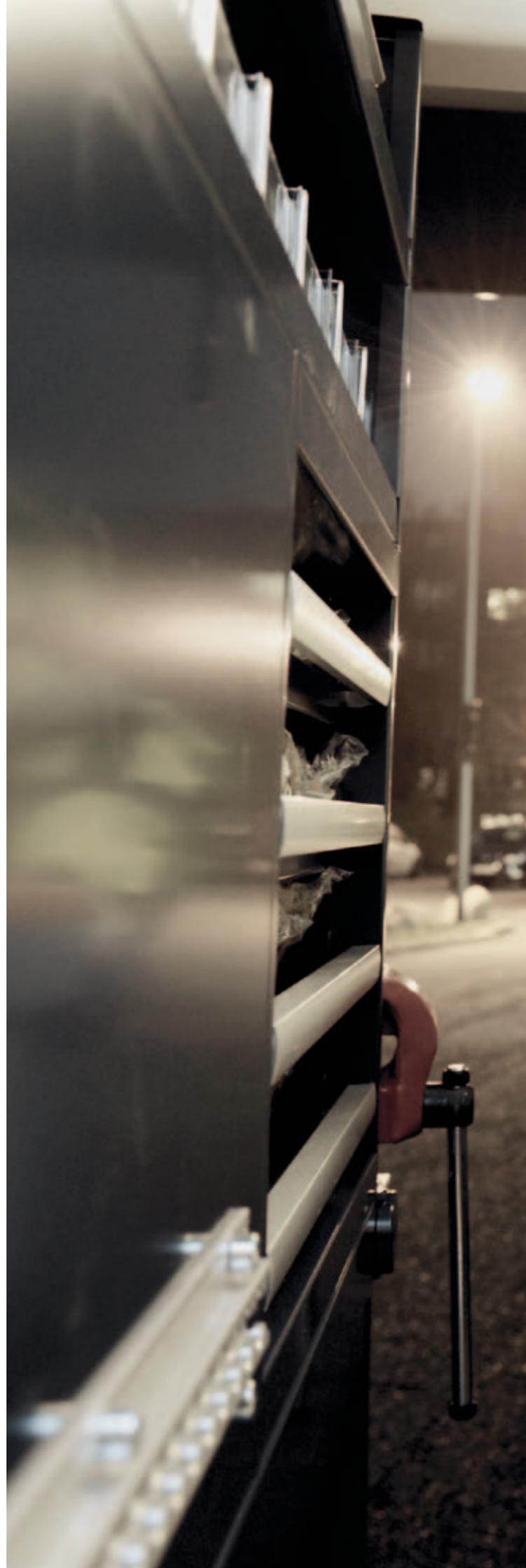
Benefit from our service. Benefit from the manufacturer's expertise. With our full service offer, or individual maintenance intervals, or much, much more, you will be convinced by the diversity of our service, which is flexibly adapted to your specific application. In this way our service provides you with long-term investment and planning security. Our comprehensive direct sales network and superbly trained engineers ensure rapid response times, minimum downtimes and low operating costs.

Advantages

- Competent and comprehensive consultancy.
- Short communication channels and rapid response times.
- Short downtimes to save you money.
- First-class training of the service technicians.
- Efficient spare part logistics with 98.5% spare parts availability.
- Preserve the value of your trucks with original spare parts.
- Increased operational safety and reliability.

The whole is greater than the sum of its parts

Our service department has exclusive access worldwide to original spare parts. Using only original spare parts is the only way to maintain optimum interaction between all components, ensuring maximum reliability and preserving value. Only our original spare parts meet the high performance requirements of the truck and material and secure your complete warranty claim.





With night express delivery, all spare parts can be delivered directly in our service engineers' vans so they reach you by next morning.

Double digit decrease in CO₂ emissions over ten years

We have drastically reduced CO₂ emissions for our entire truck range over the last ten years, by more than 25 % for electric and diesel/LPG fork lift trucks. and more than 35 % for vertical order pickers and narrow aisle/reach trucks. We have done this with a series of technological innovations which are currently setting standards for CO₂ emissions.

Significantly reduced CO₂ emissions also mean significantly lower energy costs

Our entire product cycle now features technological innovations for reducing CO₂ emissions, from manufacturing through usage to reconditioning. And our high-tech solutions are really setting standards in the usage phase which is where more than 80 % of all emissions occur. You can easily use this advantage to your benefit, immediately reducing your energy costs considerably while simultaneously achieving maximum throughput rates. www.jungheinrich.com/oekobilanz

TÜV-certified product life-cycle assessment

TÜV-Nord has systematically analysed the life-cycle assessment and certified it in accordance with DIN EN ISO 14040, giving us the environmental rating 'Geprüfte Produkt-Ökobilanz' [Certified Product Life-cycle Assessment].





ISO 9001 The German production
facilities in Norderstedt and
ISO 14001 Moosburg are certified.

 Jungheinrich trucks
conform to the European
Safety Requirements.

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