

# **INTRALOGISTICS.**

**Our solution for your business.**



**A leader  
in intralogistics.**

**We are by your  
side – worldwide.**



• Our own direct sales companies in 40 countries.

○ Partner companies in about 80 other countries.

Over 18,000 employees.

More than 5,700 after-sales service engineers worldwide.

Founded in 1953, Jungheinrich is one of the world's leading intralogistics solution providers. With a comprehensive portfolio of industrial trucks, logistics systems and services, we offer tailor-made solutions that allow you to concentrate on your core business, giving you peace of mind. With our unique direct sales and service network, you have a reliable partner at your side, any time and anywhere in the world.

# Complete intralogistics from a single source.

## Your requirements – our solution.

Logistics keeps the world in flux, and intralogistics processes are a significant part of it. An effective and highly efficient in-house flow of goods is now one of the most important factors in making any company competitive.

That's why we devote all our passion to intralogistics. We make sure you get the best value solutions for your needs, whatever the sector or company size.

This catalogue gives you an overview of our unique portfolio of products, systems and services. And you'll learn more about how we think and work to make your intralogistics processes efficient, flexible and sustainable.

**New trucks & special build:** Lifting, stacking, transporting, order picking – electrically, by combustion engine or by hand? We have the right trucks in our product portfolio for you.

**Rental & finance:** Whether short-term, long-term rental or financing – we offer you individual solutions that are tailored exactly to your needs and that guarantee you maximum flexibility and financial independence.

**Used trucks:** With our JUNGSTARS, you benefit from used trucks that are among the best in the market. They are reconditioned to the highest quality standards and delivered with a twelve-month warranty – just like a new forklift truck.

**Energy:** To ensure the efficient use of energy, we are the only supplier of trucks, batteries and chargers as a complete system from a single source.

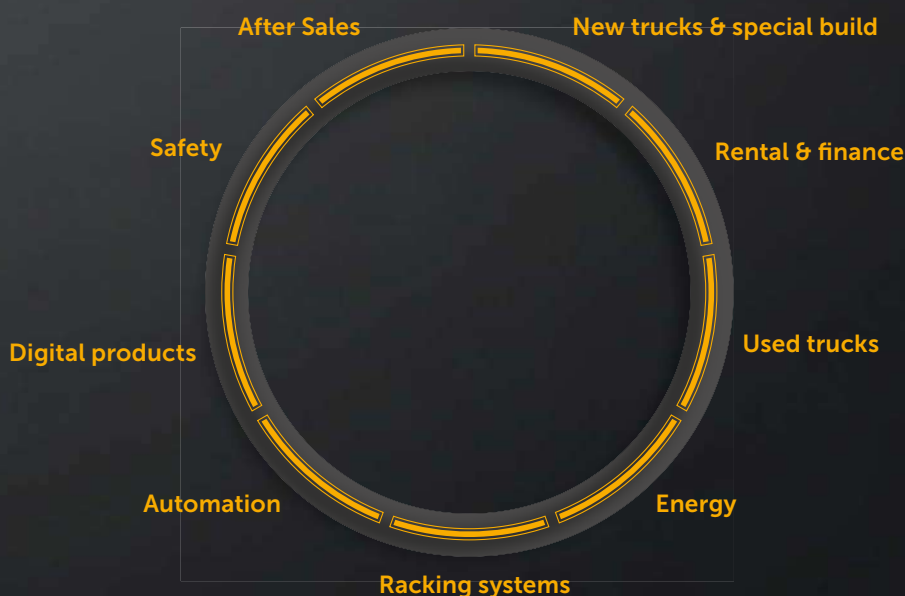
**Racking systems:** As a full-service provider, we can find the optimum racking solution for you – from static to dynamic racking systems to complex automated storage systems.

**Automation:** Systems with optimum automation levels take the efficiency and performance of your warehouse to a whole new level. We guarantee the highest process reliability. From planning through implementation to service and support.

**Digital products:** Digitalisation is also the key to success in intralogistics. This is based on the intelligent networking of the warehouse. With our digital products we support you in the transition from analog to digital and bring Industry 4.0 into your warehouse.

**Safety:** We help to protect people, goods, warehouse equipment, machines and data with a variety of safety options and assistance systems. This gives you 360° protection for all areas of your warehouse.

**After Sales:** The smooth operation of your intralogistics solution is our top priority. That is why we offer reliable support worldwide for your trucks and systems with more than 5,700 qualified after-sales service engineers. This means we can be on-site with you within a very short time and restore the availability of your trucks and systems.



## INTRO

**By your side – worldwide**

Through our unique direct sales and service network we are at your side worldwide. \_\_\_\_\_ **02–03**

**Everything from a single source**

Complete intralogistics from a single source: Products, systems and services. \_\_\_\_\_ **04–05**

## CONSULTING

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We optimise the flow of goods for you – for highly efficient warehousing processes. \_\_\_\_ **70–71**

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Fast, high-access and error-free picking solutions for significant performance increases in the warehouse. \_\_\_\_\_ **86–87**

## DIGITAL PRODUCTS

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Innovative interface software for perfect networking of trucks, storage facilities and WMS. \_\_\_\_ **91**

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# Together for the best overall solution.

**Products and services must match your requirements precisely. That is why we combine excellent technical know-how and process expertise with in-depth industry knowledge.**

Each industry, company and warehouse has its own unique features, for which there are rarely off-the-peg solutions. As a company that can provide not only process consulting but also the right products, systems and services, we have made it our business to work with you to get the most out of your intralogistics processes. We benefit from our many years of worldwide experience in numerous industries. This allows us to adapt to your specific requirements and individual goals. Whether you want to take your throughput to a new level, increase efficiency, relieve em-

**"The best solution is always an individual one."**

ployees through automation or provide more security and sustainability in the warehouse, we are the competent partner at your side with a unique portfolio of products and services, and above all, with the passion to create the best individual solution for you.

## **THE HIGHLIGHTS**

- ▶ Sound industry knowledge and international experience.
- ▶ Excellent technical know-how and innovative strength.
- ▶ Individual customer orientation, from regional operations to globally successful companies.
- ▶ Comprehensive consulting services – from goods flow analysis, planning and implementation of logistics systems to safety and energy consulting.





Before we recommend a product, a service or a system solution, we focus on your specific requirements.

# Genuine Jungheinrich quality hand pallet trucks.

Reliable and resilient for transporting large loads over short distances and in confined spaces.

## THE HIGHLIGHTS

- ▶ Easy to use by anyone without special training.
- ▶ Precise and easy to manoeuvre even in confined spaces due to a short headlength.
- ▶ Comfortable to work with thanks to ergonomic control handle.
- ▶ Particularly robust construction for high durability and fatigue-free operation.
- ▶ Numerous truck types for a wide variety of application scenarios.



Maintenance-free hydraulics.



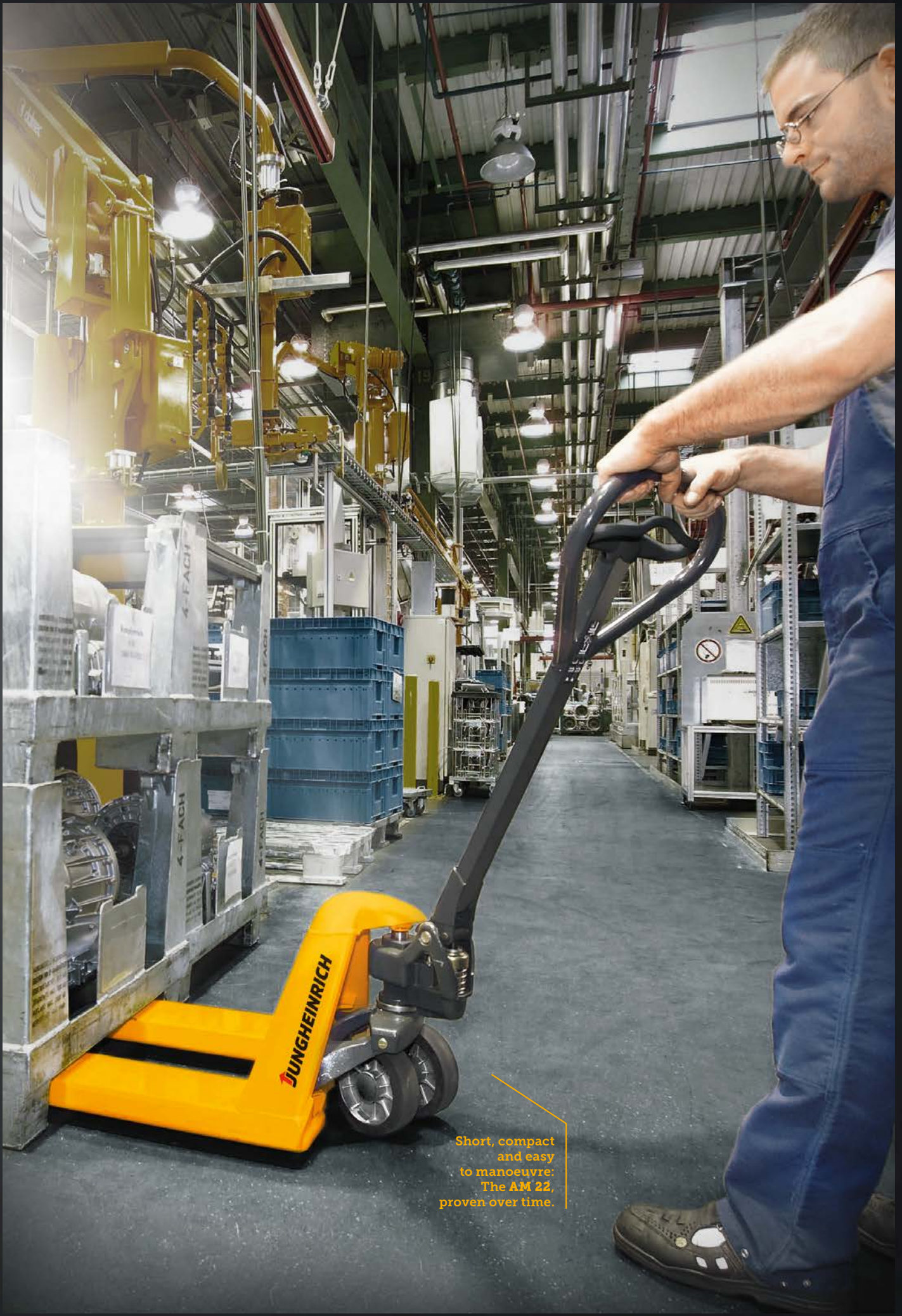
Ergonomic control handle for easy manoeuvring.



Easy sideways lifting of pallets possible due to rounded forks.

SERIES	AM ①	AMW ①	AMX ①	HC
MODEL NAME	22   30   15l   V05   G20   I20   I20p	22   22p	10   10e   I15   I15p   I15e   I15ep	110
AISLE WIDTH (MM)	From 1,584	From 1,763	From 1,630	From 2,145
LIFT HEIGHT (MM)	120–390	122	710–714	1,600–3,000
CAPACITY (KG)	500–3,000	2,200	1,000–1,500	1,000

① These models may come with weighing function (p), as inox version (l) or with electro-hydraulics (e).



Short, compact  
and easy  
to manoeuvre:  
The AM 22,  
proven over time.



The **AM 30** can effortlessly move unusually heavy loads.

Ideal for moving display pallets: The **AM V05**.



**AM SERIES**  
22 | 30 | 151 | V05 | G20 | I20 | I20p

The AM series hand pallet trucks are manufactured using high-quality materials, making them reliable and resilient. They are easy to operate even without previous knowledge.

- ▶ Highly resilient with capacities up to 3,000 kg.
- ▶ Maximum manoeuvrability due to short chassis length.
- ▶ Safe manoeuvring thanks to the ergonomic control handle.



The **AM G20** is perfect for outdoor use.



For pallets with low entry height: The **AM 151** with flat forks.



### AMW SERIES 22 | 22p

When weighing and transporting goods, these pallet trucks excel as mobile weighing systems thanks to the "weigher to goods" principle.

- ▶ Maximum productivity thanks to precise weighing system with 2,200 kg weighing capacity for immediate weighing directly at the handling point.



### AMX SERIES 10 | 10e | 115 | 115p | 115e | 115ep

If required, the scissor lift trucks are also available in corrosion-resistant inox, where absolute hygiene is required, such as in the food or pharmaceutical industries.

- ▶ Can be used as a lift platform or workbench to allow maximum flexibility.
- ▶ High resistance thanks to corrosion resistance even in humid environments.



### HC SERIES 110

Electric hand stacker for occasional stacking operations and loading and unloading of commercial vehicles. Cost-effective alternative compared to trucks with a drive motor.

- ▶ Maximum efficiency thanks to powerful electric lift motor to lift heights up to 3 metres.
- ▶ Time savings through simple and fast socket charging.

# Electric pallet trucks. Tireless helpers for transport tasks.

Easy-to-use, extremely agile and efficient on short, medium and long-haul routes.

## THE HIGHLIGHTS

- ▶ Fatigue-free operation with electric drive and outstanding user-friendliness.
- ▶ Powerful three-phase technology for up to 25 % more efficiency.
- ▶ Easy to manoeuvre in the tightest of spaces.
- ▶ Robust construction for fatigue-free operation.
- ▶ 5 truck types, from the M series entry-level models to the compact EJE 1 to the ESE 5.



Easy and safe to manoeuvre: The safety control handle of the pedestrian trucks.



The electric low lift trucks for medium distances have stand-on platforms.



Intermediate charging at any socket: The integrated charger.

SERIES	SHORT HAUL					MEDIUM HAUL	LONG HAUL
	AME	EJE M	EJE 1	EJE 2	EJE C20	ERE 1-2	ESE 1-5
MODEL NAME	13   15	M13   M15	114i   116i   118i   114   116   118   120	222   225   230   235   222r   225r	C20	225i   120   125   225   230	120   220   320   430   533
AISLE WIDTH (MM)	From 1,783	From 1,493	From 1,762	From 1,977	From 2,322	From 1,919	From 2,197
LIFT HEIGHT (MM)	110-115	120	122	122	540	122	115-125
CAPACITY (KG)	1,300	1,300-1,500	1,200-2,000	2,000-3,500	2,000	2,000-3,000	2,000-3,300
TRAVEL SPEED (KM/H)	1,300-1,500	5	5-6	6	6	6-14	12.5-20

Individually adaptable:  
from the entry level  
to the high perfor-  
mance truck.

The ERE 120 offers  
four different stand-  
on platform versions  
for maximum  
ergonomics.

Powerful and efficient  
drive concept for  
maximum productivity.

**LI-ION**  
technology



## SHORT HAUL



### AME SERIES

13 | 15

The reliable and compact electric pedestrian pallet trucks are classic entry-level models that provide maximum flexibility and availability thanks to easy handling and a removable Li-ion battery case.

- ▶ Designed for simple applications.
- ▶ Powerful lithium-ion battery with intuitive "plug & play" battery exchange principle.
- ▶ Particularly suitable for use in confined spaces and for HGV transport due to the compact design and extremely low weight.



### EJE SERIES 1-2

114i | 116i | 118i | 114 | 116 | 118 | 120  
| 220 | 225 | 230 | 235 | 222r | 225r

For transporting goods over short distances and in particularly tight warehouse environments and sales areas.

- ▶ Maximum manoeuvrability with shortest front-end length on the market.
- ▶ Up to 25% lower energy consumption compared to the competition.



### EJE SERIES M

M13 | M15

Trucks are not always required to work across multiple shifts. For lighter and occasional use, our entry-level models are therefore ideal.

- ▶ For occasional use.
- ▶ Maximum manoeuvrability with short front-end length.
- ▶ Easy and fast charging thanks to on-board charger.



### EJE SERIES C

C20

Perfectly suitable for use in retail shops with additional mast lift for back-friendly order picking and stacking.

- ▶ With ergonomic picking stroke.



## MEDIUM HAUL



Our ERE trucks have many options for energy efficient operation.

### ERE SERIES 1-2

225i | 120 | 125 | 225 | 230

For loading and unloading trucks, transporting heavy loads and picking various goods. These trucks are perfectly suitable with a folding or fixed stand-on platform.

- ▶ Robust frame for the toughest applications.
- ▶ At 14 km/h, the fastest truck on the market.
- ▶ Up to 23% lower energy consumption compared to the competition.
- ▶ Best ergonomics thanks to adjustable, cushioned driver platform.

## LONG HAUL



### ESE SERIES 1-5

120 | 220 | 320 | 430 | 533

These electric pallet trucks are side-seaters, the position of the operator is transverse to the direction of travel. This allows maximum visibility and relaxed operation over longer distances.

- ▶ High speed and acceleration values for efficient long-haul transport.
- ▶ Maximum visibility for the operator thanks to lateral seating position.
- ▶ Electric steering for easy manoeuvring of heavy loads with few turns of the steering wheel.

# Real packers in the warehouse: Electric stacker trucks.

Perfect for storage and retrieval as well as occasional order picking over short, medium and long hauls.

## THE HIGHLIGHTS

- ▶ High travel performance and throughput thanks to powerful three-phase technology.
- ▶ Longer operating times thanks to battery that can be quickly removed from the side, or on-board charger (optional; standard on the EJC M and EMC).
- ▶ Particularly robust construction for fatigue-free operation.
- ▶ Ten truck types, ranging from the M series to the compact EJC and the ESD for loads of up to 2 tons.
- ▶ Customisable thanks to numerous options for a wide range of application scenarios.



Easy and safe to manoeuvre: The safety control handle of pedestrian trucks.



Plenty of room for movement for the operator as well: The stand-on platform of the ERC 216z.



Easy intermediate charging thanks to on-board charger.

SERIES	SHORT HAUL				MEDIUM HAUL		LONG HAUL	
	EJC M ①	EMC ①	EJC 1-2 ①	EJD 1-2	ERC 2 ①	ERD 1-2	ESC 2-3	ESD 1-2
MODEL NAME	M10 E   M10b E   M10   M13 ZT	105   110   B10	110   112   112z   212   212z   212b   214   214z   214b   216   216z   216b   220   220z   220b   230	118i   120   222	212   212z   212b   214   214z   214b   214i   214zi   214bi   216   216z   216b   216i   216zi   216bi   220   220z   220b	220i   120   220	214   214z   216   216z   316   316z	120   220
LIFT HEIGHT (MM)	1,540-3,300	1,540	2,800-6,000	2,905	2,800-2,900	1,660	2,800-2,900	1,660
CAPACITY (KG)	1,000-1,300	1,000	1,000-2,000	2,000-2,200	1,200-2,000	2,000-3,760	1,400-1,600	2,000
TRAVEL SPEED (KM/H)	5	5	5.5-6	6	8-9	9-14	9.1	9.1-12
LIFT SPEED (M/S)	0.22	0.16	0.15-0.25	0.25-0.3	0.18-0.25	0.32	0.23-0.24	0.22-0.39

① Some of these models are available with a duplex (ZZ) and triplex mast (DZ), support arm lift (z) or as wide-track version (b).

Enhanced safety thanks to 3-sided protection and fixed platform

Extremely compact and highly manoeuvrable thanks to fully integrated lithium-ion battery.

Optimum energy efficiency for extremely long service life thanks to lithium-ion technology.





### **EJC SERIES M** **M10 E | M10b E | M10 | M13 ZT**

The entry-level models for low-intensity, lightweight stacking tasks.

- ▶ For occasional short assignments.
- ▶ Maximum manoeuvrability even in tight environments.
- ▶ Fast and easy charging thanks to on-board charger.



### **EMC SERIES 1** **105 | 110 | B10**

For easy stacking tasks: Performance, ease of use and safety in a single truck.

- ▶ Maximum flexibility thanks to optional use as a work table.
- ▶ Fast and easy charging thanks to on-board charger.

### SHORT HAUL



### **EJC SERIES 1-2** **110 | 112 | 112z | 212 | 212z | 212b | 214 | 214z | 214b | 216 | 216z | 216b | 220 | 220z | 220b | 230**

Maximum performance even for inexperienced operators. With numerous truck options for every purpose and every storage environment.

- ▶ Effortless, efficient operation thanks to electric drive and outstanding user-friendliness.
- ▶ Robust and reliable even under the toughest conditions.



### **EJD SERIES 1-2** **118i | 120 | 222**

These universal trucks combine the capabilities of low lift and stacker trucks.

- ▶ Greater productivity with the inclusion of two pallets in the double deck.

## MEDIUM HAUL

**ERC SERIES 2**

**212 | 212z | 212b**  
**| 214 | 214z | 214b | 214i | 214zi | 214bi**  
**216 | 216z | 216b | 216i | 216zi | 216bi**  
**| 220 | 220z | 220b**

The electric pedestrian controlled truck with a folding or fixed stand-on platform combines the manoeuvrability of a pedestrian stacker with the comfort and speed of a ride-on.

- ▶ Maximum safety thanks to the four-wheel design, cushioned stand-on platform and permanent monitoring of the current load weight to warn of overload.
- ▶ Powerful three-phase technology ensures strong acceleration and high speeds with low consumption.

**ERD SERIES 1-2**

**220i | 120 | 220**

These universal trucks combine the capabilities of electric pallet and stacker trucks. As versatile as they are, they are equally suitable for double-deck loading and unloading of lorries as well as for transporting or stacking goods.

- ▶ Greater productivity by handling two Euro pallets simultaneously in double-deck mode.

## LONG HAUL

**ESC SERIES 2-3**

**214 | 214z | 216 | 216z | 316 | 316z**

Electric sideways seated stackers offer the highest travel and acceleration performance over longer transport routes. With a very narrow width and a short aisle width, the ESC comes to the fore in particular when used in narrow storage areas and operating block bearings.

- ▶ Maximum manoeuvrability through compact dimensions.
- ▶ Powerful, innovative three-phase drive motor for maximum travel and acceleration performance.

**ESD SERIES 1-2**

**120 | 220**

Versatile electric ride-on and sideways seated stacker, ideal for double-deck trailer loading.

- ▶ Optimal visibility through side seat position.
- ▶ Greater productivity by handling two Euro pallets simultaneously in double-deck mode.

# Low level order pickers for maximum picking performance.

Perfect interaction between man and machine: Intelligent assistance systems and operating concepts make order picking faster and more precise than ever before.

## THE HIGHLIGHTS

- ▶ Fast and safe picking from the first rack level up to an order picking height of 5.30 metres.
- ▶ Robust construction for the toughest applications.
- ▶ Optional performance packages for performance improvement.
- ▶ Up to 30% more picks per hour with remote solutions easyPILOT Control and Follow.
- ▶ The perfect individualised truck for every application scenario.



The perfect workplace with a variety of storage options.



Semi-automatic control of the ECE with easyPILOT.



Height-adjustable jetPILOT multifunction steering for automotive style driving.

SERIES	ECE 2	ECE 3	ECE 3	ECD 3	EKM 202
MODEL NAME	220   225	310	320	320	202
LIFT HEIGHT (MM)	125	750	750	700	3,000
CAPACITY (KG)	2,000–2,500	1,000	2,000	2,000	215
TRAVEL SPEED (KM/H)	9.5–12.5	11.5–12.5	9.5–12.5	9.5–12.5	8
FORK LENGTH (MM)	1,150–2,400	1,150	2,400	2,450	–



Order picking is really simple with easyPILOT: The ECE 225 follows automatically to the next picking station without the operator having to climb or drive.





### ECE SERIES 2 220 | 225

Robust horizontal order picker with high level of travel comfort. Ideal for loads up to 2,500 kg.

- ▶ The classic amongst our order pickers. It provides optimal picking performance and balanced energy consumption.



### ECE SERIES 3 310

The ECE 310 with ergonomic lift can lift loads up to 1,000 kg to an ergonomic back-friendly order picking height.

- ▶ Optionally with hydraulically raising stand-on platform for secure order picking in the second rack level.

### ECE SERIES 3 320

Horizontal order picker with scissor lift for picking to back-friendly height. The fork length allows two pallets to be raised. Loads of up to 2,000 kg can therefore be raised to an ergonomic, back-friendly order picking height.

- ▶ Maximum throughput thanks to high acceleration and speed values.
- ▶ Best energy consumption on the market.



The **EKM 202** replaces the classic ladder up to the third rack level.



### **ECD SERIES 3 320**

The truck can transport a previously picked pallet with its double-length forks on the initial lift, while another pallet is ergonomically picked on the mast lift.

- ▶ Increased throughput thanks to double picking quantity and reduced number of routes to goods issue.



### **EKM SERIES 2 202**

The compact small parts order picker for reach heights up to 5.30 m is used for small quantities of goods, avoiding the need for pallets. The EKM 202 is also perfect for hanging price tags or for minor maintenance work such as changing ceiling lights.

- ▶ Automatic closing doors for maximum safety.
- ▶ Thanks to its compact dimensions, it is ideal for manoeuvring in narrow aisles and passing through low doors.
- ▶ With optional generously designed and electrically adjustable shelf.

# Medium/high level order pickers for picking rates at the highest level.

Optimum interaction between man and machine: Intelligent assistance systems and digital networking bring maximum efficiency and picking performance to your high-bay warehouse.

## THE HIGHLIGHTS

- ▶ Fast and safe picking up to an order picking height of more than 14 metres.
- ▶ Numerous operating and assistance systems, safety options and various service packages for even greater efficiency and picking performance.
- ▶ Semi-automatic approach with warehouseNAVIGATION for up to 25 % increase in throughput.
- ▶ The perfect individualised truck for every application scenario.



Connection to the warehouse management system with the Jungheinrich logistics interface.



Energy-saving three-phase technology for long periods of use.



The state-of-the-art control panel design of the EKS ensures maximum ergonomics.

SERIES	EKS 1	EKS 2	EKS 3   4	EKS 3s   4s
MODEL NAME	110	210	310   412	310s   412s
AISLE WIDTH (MM)	3,000	3,000	3,000	From 1,100
ORDER PICKING HEIGHT (MM)	2,800–4,600	2,800–6,600	2,800–10,845	2,800–14,345
CAPACITY (KG)	1,000	1,000	1,000–1,200	1,000–1,200
TRAVEL SPEED (KM/H)	9–13	9–10	9–10	9–12
LIFT SPEED (M/S)	0.15–0.31	0.25–0.3	0.25–0.3	0.4–0.5

The EKS 412s sets standards with maximum picking performance up to 14 metres in height.

Thanks to the integrated warehouseNAVIGATION system, the EKS 412s reaches its destination by the shortest route possible and in no time at all.

High travel and lift acceleration for maximum throughput.

**LION**  
technology

The narrow frame construction gives the Series 2 maximum manoeuvrability.



### **EKS SERIES 1** **110**

With a travel speed of up to 13 km/h and a platform height of up to 3 metres, this is the ideal order picker for free movement up to the third rack level.

- ▶ Maximum flexibility thanks to order picking heights up to 4,600 mm.
- ▶ Particularly robust with shock-protected drive panel.



### **EKS SERIES 2** **210**

The energy-saving, free-travel 24-V model in Series 2 excels in wide-aisle warehouses thanks to its excellent ergonomics and picking performance, including order picking heights of over 6.5 metres.

- ▶ Ideal for order picking tasks in wide aisles.
- ▶ Slim and agile for improved performance in tight spaces.

Maximum performance  
in the narrow aisle  
in multi-shift operation  
with the EKS 412s.



### EKS SERIES 3 | 4 310 | 412

The efficient EKS 412 and EKS 310 medium/high-level order pickers are optimised for use in your warehouse with order picking heights of over 10 metres.

- ▶ Perfect for use in wide aisles.
- ▶ Maximum stability for safe and ergonomic operation.



### EKS SERIES 3s | 4s 310s | 412s

The Performance Series offers maximum picking performance and efficiency in narrow aisles up to 14 metres in height. Precise, fast and over the shortest route.

- ▶ Intelligent assistance and personal protection systems for more safety.
- ▶ Optimised operating concept with ergonomic design.
- ▶ Faster lifting and lowering speed for more picks per hour.

# Electric tow tractors with trailers for efficient transport tasks.

Electric tow tractors with trailers as tow trains are highly efficient links in logistics and production supply.

## THE HIGHLIGHTS

- ▶ Highly efficient due to the simultaneous transport of various loads.
- ▶ Up to 70 % energy savings when used as a tow train compared to forklifts.
- ▶ High towing capacity of up to 28 tons.
- ▶ For every application scenario, the perfect tow tractor with a wide variety of towing capacities and trailers.
- ▶ Competent, individual system consulting – from route planning to connection to control systems.



Thanks to three-phase AC technology, electric tow tractors are emission-free, quiet and powerful.



Comfortable, ergonomically designed and performance-enhancing workplace.



Automotive-style pedal arrangement on the EZS 7280.

SERIES	TILLER OPERATED TOW TRACTOR	RIDE-ON TOW TRACTOR			SIT-DOWN TOW TRACTOR		PLATFORM VEHICLE	TRAILER   TOW TRAINS
	EZS	EZS	EZS	EZS	EZS	EZS	EZW	GTE
MODEL NAME	010	130	C40	350	570   580   590   5100	7280	515	106   212   312
TOW CAPACITY / LOAD IN KG	1,000	3,000	4,000	5,000	7,000–10,000	28,000	1,500 ©	600–1,200 ©
TRAVEL SPEED (KM/H)	5.4–6	9–10.5	8–12.5	8–12.5	7–18	12–25	18	–

© This information refers to the load.

Ideal for transporting heavy loads on the airport apron field: the EZS 7280.

With compact dimensions and a large steering angle, it masters even the tightest places.

**LI-ION**  
technology



### **EZS SERIES 0** **010**

The versatile mini-hauler is ideal for transporting small loads over short distances and in tight spaces for maximum loads of up to 1 ton.

- ▶ Ergonomic safety tiller arm.
- ▶ Maximum flexibility with the possibility of turning the truck on the spot.
- ▶ Easy and fast charging at any outlet through on-board charger.

### **EZS SERIES 1** **130**

With a width of just 600 mm, it is the ideal vehicle for particularly narrow and compact areas. By coupling several trailers, the loading areas can be varied for flexible and economical material handling.

- ▶ Maximum flexibility thanks to the small turning radius.
- ▶ Maximum efficiency thanks to powerful acceleration and high top speed.

### **EZS SERIES C** **C40**

With its superelastic drive wheel, this versatile tow tractor with 4 tons of towing capacity offers optimum traction even on smooth industrial floors and uneven floors outdoors.

- ▶ Increased ground clearance for comfortable driving on uneven ground.



### **EZS SERIES 3** **350**

The high-performance EZS 350 electric tow tractor features a robust design for the toughest applications with tow loads up to 5 tons.

- ▶ Maximum safety when cornering thanks to the curveCONTROL steering angle-dependent assistance system.
- ▶ Outstanding handling and ergonomics.
- ▶ Maximum efficiency thanks to powerful acceleration and high top speed.





### EZS SERIES 7 7280

With its enormous pulling power of 28 tons, the EZS 7280 comes into its own when transporting heavy loads over long distances and especially on ramps.

- ▶ Safe travel with automatic parking brake and hill start assist.
- ▶ Maximum flexibility thanks to small turning radius for tight spaces.
- ▶ Ergonomic cab.

### EZS SERIES 5 570 | 580 | 590 | 5100

With their superelastic tyres these vehicles are suitable for indoor and outdoor use and pull heavy trailers up to 10 tons total weight.

- ▶ Maximum efficiency due to powerful three-phase motor.
- ▶ High level of travel comfort through cushioned suspension.



### EZW SERIES 5 515

The compact and manoeuvrable EZW 515 electric platform truck can carry up to 1.5 tons on its loading area, making it suitable for almost any application, both indoors and outdoors.

- ▶ Maximum efficiency through powerful acceleration and high top speed thanks to three-phase motor.
- ▶ High level of travel comfort through cushioned suspension.
- ▶ Version with and without cabin.



### GTE SERIES 106 | 212 | 312

The compact E-frame trailer can be coupled as desired. This allows loading/unloading on both sides.

- ▶ Maximum safety thanks to directional stability, even on long trains.
- ▶ Optimum ergonomics for efficient operation.

# Our electric forklift trucks EFG. Bundles of energy.

The EFG electric counter-balanced trucks combine performance and efficiency in a highly impressive way.

## THE HIGHLIGHTS

- ▶ Powerful lithium-ion technology or lead-acid battery with 2Shifts1Charge.
- ▶ Pure Energy: Optimum efficiency through perfect co-ordination of original Jungheinrich components.
- ▶ High dynamic level and precise handling thanks to three-phase AC technology for drive and lift motors.
- ▶ Energy recovery through regenerative braking.
- ▶ Simple to control with intelligent operating concepts.
- ▶ The perfect individualised truck for every application scenario.



An ergonomic and productivity-enhancing workplace in every respect.



Maintenance-free but extremely powerful: Lithium-ion technology for the EFG.



3 different controls are available for the individual workplace.

SERIES	EFG BB	EFG BC	EFG 1	EFG 2	EFG 3	EFG 4	EFG 5
MODEL NAME	BB 216k	BC 316   BC 320	112	213   215   216   216k   218   218k   220	316   316k   318   318k   320	425   425k   430   430k   S30	535k   540   540k   545   545k   550   S40   S50
TYPE	3 WHEEL	4 WHEEL	3 WHEEL	3 WHEEL	4 WHEEL	4 WHEEL	4 WHEEL
LIFT HEIGHT (MM)	3,000–6,500	3,000–6,500	2,900–7,000	3,000–7,000	3,000–7,000	2,900–7,500	2,846–7,320
CAPACITY (KG)	1,600	From 1,600	1,200	1,300–2,000	1,600–2,000	2,500–3,000	3,500–5,000
TRAVEL SPEED (KM/H)	15	15	12	16 Ⓞ	17 Ⓞ	20 Ⓞ	17–18 Ⓞ Ⓞ
OVERALL LENGTH (MM)	2,899	3,096–3,469	2,929	2,924–3,145	3,140–3,248	3,446–3,617	3,805–4,102

Ⓞ Some of these models are available with a smaller wheelbase and turning radius (k).

Ⓞ Some of these models are available with higher capacity and larger tread (S).

Up to 20% less energy consumption thanks to the PureEnergy technology concept.

Clever attachment options for use with almost all goods that need to be transported.

Various safety options and intelligent assistance systems reduce the potential hazards in the warehouse environment.

**LI-ION**  
technology





### **EFG SERIES BB** **BB 216k**

Thanks to its compact and agile design, the electric three-wheel counterbalance forklift truck is optimally suited for light to medium transport and stacking work in confined warehouse environments.

- ▶ Attractive alternative for less intensive use.
- ▶ Minimised turning radius thanks to twin-motor front-wheel drive.
- ▶ High residual capacity thanks to the truck's low centre of gravity.



### **EFG SERIES 1** **112**

Series 1 is highly manoeuvrable and extraordinarily powerful with a load capacity of up to 1.2 tons and lift heights of up to 7 metres. All series 2 and 3 options are also available for this truck.

- ▶ Highly manoeuvrable three-wheel counterbalance forklift truck.
- ▶ 180° turns on the spot are possible.



### **EFG SERIES BC** **BC 316 | BC 320**

The agile electric four-wheel counterbalance forklift trucks offer stability as well as manoeuvrability even with loads of up to 2 tons and lift heights of up to 6.5 metres, and are particularly suitable for light to medium transport and stacking work.

- ▶ Attractive alternative for less intensive use.
- ▶ Minimised turning radius thanks to twin-motor front-wheel drive.

### **EFG SERIES 2** **213 | 215 | 216 | 216k | 218 | 218k | 220**

The Series 2 is also ideally suited for tight storage environments up to 7 metres lift height and up to 2 tons load capacity. With numerous equipment and safety options, these trucks can be perfectly adapted to your individual requirements.

- ▶ The highly versatile all-rounder.
- ▶ Optimum energy and cost efficiency with maximum performance thanks to PureEnergy concept.
- ▶ Numerous assistance systems and safety options protect people, goods and the truck.



### EFG SERIES 3

316 | 316k | 318 | 318k | 320

The highly articulated suspension axle of this EFG series distributes the load to all 4 wheels and also absorbs rough road bumps. And all this with a capacity of 2 tons and a lift height of 7 metres.

- ▶ Maximum stability and travel safety due to optimum weight distribution across all four wheels.
- ▶ Fatigue-free working thanks to the ergonomic workplace.
- ▶ Versatility and flexibility, both indoors and outdoors.



### EFG SERIES 4

425 | 425k | 430 | 430k | S30

The 4 Series electric four wheel counterbalanced forklift trucks are suitable for a wide range of indoor and outdoor applications, with a capacity of up to 3 tons and a lift height of up to 7.5 metres, especially when using attachments.

- ▶ High throughput combined with low energy consumption.
- ▶ Top speed up to 20 km/h.
- ▶ S line for heavy loads with attachments.



### EFG SERIES 5

535k | 540 | 540k | 545 | 545k  
| 550 | S40 | S50

The 4-wheel trucks are optimally designed for heavy-duty interior and exterior use and for using complex attachments. And all this with a capacity of up to 5 tons and a lift height of up to 7.5 metres.

- ▶ Optimum energy efficiency even in the most difficult applications.
- ▶ S line for heavy loads with attachments.

# Diesel and gas forklift trucks for tough outdoor use.

These sturdy powerhouses provide highest reliability for maximum throughput.

## THE HIGHLIGHTS

- ▶ Hydrostatic drive concept for maximum performance.
- ▶ Excellent dynamic performance and high start-up torques thanks to infinitely variable hydrostatic power transmission.
- ▶ Perfect all-round visibility with large glass surfaces and panoramic glass roof.
- ▶ Truck classes for loads of up to 3.5 tons and lift heights of up to 7.5 metres.



Increased oil flow of working hydraulics for greater productivity during demanding applications with attachments.




The high-performance cooling system of the truck is fully resilient even at very high ambient temperatures.



Powerful, state-of-the-art Kubota industrial engines, which meet the tier 5 emission standard.

SERIES	DFG   TFG 3 ①	DFG   TFG 4 ①
MODEL NAME	316s   318s   320s	425s   430s   530s   435s   535s
LIFT HEIGHT (MM)	2,900–7,500	2,900–7,500
CAPACITY (KG)	1,600–2,000	2,500–3,500
TRAVEL SPEED (KM/H)	19–20	18–20.8
LIFT SPEED (M/S)	0.58–0.62	0.48–0.61

① These models are optionally available with hydrostatic drive (s).



Excellent all-round visibility  
and perfect ergonomics  
for efficient operation.

The DFG 425s is  
a powerhouse  
that you can use  
all year round.

The agile  
**TFG 320s** is  
always  
wherever it  
is needed.



Efficient and  
resilient:  
The **DFG 320s**  
is ideal for  
outdoor use.

### **DFG | TFG SERIES 3** **316s | 318s | 320s**

The robust and manoeuvrable hydrostatic trucks of the 3s series are the perfect choice for tough indoor and outdoor applications. Be it fast loading and unloading in reversing mode or precise work on ramps and inclines – the hydrostatic drive technology ensures optimised energy efficiency with the highest throughput.

- ▶ Maximum efficiency with high torque even at low speeds.
- ▶ The individually adaptable operating concept ensures optimum ergonomics.





Unbeatable in reverse mode:  
The **DFG 425s**.



Hard outdoor use on dirty, uneven ground – no problem for a **TFG 425s**.



### **DFG | TFG SERIES 4** **425s | 430s | S30s | 435s | S35s**

The diesel and fuel gas forklift trucks of the 4 series are suitable for use with loads of up to 3.5 tons. With proven motors and optimally matched components, they stand out in rugged conditions with maximum reliability, load capacity and durability.

- ▶ Encapsulated components for maximum reliability.
- ▶ Low environmental impact through low consumption.

# Our reach trucks. A blueprint for flexibility.

Compact, agile and intuitive to use. These precise all-rounders set standards in confined spaces.

## THE HIGHLIGHTS

- ▶ Major space gains and maximum efficiency through reach mast technology.
- ▶ Productive working thanks to intuitive operation.
- ▶ Maximum safety through intelligent assistance systems.
- ▶ Fast, accurate and safe storage and retrieval on the rack.
- ▶ Optimum control of operating cycles through 180° and 360° steering.
- ▶ The perfect individualised truck for every application scenario.

SERIES	ETV   ETM 2	ETV   ETM 3	ETV C	ETV Q	ETR
MODEL NAME	210   212   214   216   216i	318   320   325	C16   C20	Q20   Q25	214   216   318   320   315d   420   416d
AISLE WIDTH (MM)	From 2,608	From 2,737	From 2,784	From 2,756	From 2,528
LIFT HEIGHT (MM)	4,550–10,700	4,250–14,000	4,550–7,400	4,250–10,700	4,953–11,354
CAPACITY (KG)	1,000–1,600	1,800–2,500	1,600–2,000	2,000–2,500	1,400–2,000
TRAVEL SPEED (KM/H)	11–14	14	12.2	14	12.1–12.9
LIFT SPEED (M/S)	0.48–0.81	0.38–0.64	0.32–0.7	0.35–0.64	0.65–0.84




Jungheinrich reach trucks, such as this ETV 216, can be used universally.



A comfortable and, above all, safe workplace with the best all-round visibility.



Precise approach to the storage area with the help of intelligent assistance systems.



The revolutionary design of the ETV 216i offers a terrific 360° visibility and a perfect view of the support arms and the load. With panoramic glass roof for optimum visibility and safety.

With 23% higher lift speed.

Significantly larger driver's cab with a wide range of adjustment options.

With fixed lithium-ion battery: Full power at all times. Also in multi-shift operation. Maintenance-free.

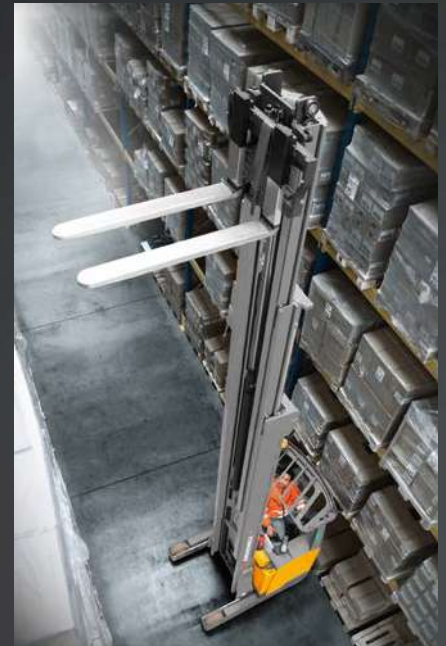
**LI-ION**  
technology



### ETV | ETM SERIES 2 210 | 212 | 214 | 216 | 216i

One of the most agile in its class. In confined spaces, it sets the standard with maximum control and maximum efficiency. The highlight of this series: The ETV 216i with a powerful built-in lithium-ion battery.

- ▶ The classic among reach trucks with high manoeuvrability and optimum energy efficiency.
- ▶ A load capacity of up to 1.6 tons ensures optimum handling performance.



### ETV | ETM SERIES 3 318 | 320 | 325

With their extremely stable mast and heavy frame, the 3 series reach trucks lift loads to heights where other trucks give up. Here, the triple mast can make itself extremely small, for low headroom.

- ▶ Maximum handling capacity thanks to a load capacity of up to 2.5 tons and a lift height of up to 14 metres.
- ▶ Maximum performance with loweringPRO (optional): Doubling of lowering speed up to rates of 1.2 m/s.



### ETV SERIES C C16 | C20

The all-rounder for indoors and outdoors. In both scenarios, it can lift up to 2 tons to a lift height of 7.4 metres. In combined use, this can save the acquisition costs of another forklift truck.

- ▶ Designed for combined indoor and outdoor use.
- ▶ Superelastic tyres and a high ground clearance for different ground conditions.



### ETV SERIES Q Q20 | Q25

The multi-way reach truck is particularly suitable for transporting and storing long goods in narrow aisles.

- ▶ Travels in any direction with the electronically controlled four-wheel steering.
- ▶ Five steering programmes for optimum cube utilisation at the touch of a button.



### ETR SERIES 2-3 214 | 216 | 318 | 320 | 315d | 420 | 416d

The reach trucks for easy and double-deep storage. The fork is moved back and forth by means of a scissor mechanism. The mast is firmly bolted to the frame and therefore allows the use of different support arms. These can be chosen so that even pallets with a width of up to 1,200 mm can be withdrawn at ground level between the load wheels.

- ▶ Outstanding residual capacity – even with double-deep stacking.
- ▶ Maximum throughput due to superior lift speed.
- ▶ Highest variance in the dimension between the support arms enables optimal adaptation to your storage requirements.

# Narrow aisle high-performance carriers: High rack stackers.

Impressive travel and lift speeds plus intelligent technology for highest throughput with optimum cube utilisation.

## THE HIGHLIGHTS

- ▶ Modular design with up to 5 million configuration options for every application scenario.
- ▶ Optimum connection to warehouse management systems through Jungheinrich logistics interface and RFID technology.
- ▶ Manual, semi-automated or fully automated operation.
- ▶ Storage and retrieval operations up to lifting heights of 18 metres.



Maintenance-free synchronous reluctance motors with the best efficiency in their class.



Vibration damping for greater safety and performance on uneven ground.



Greater productivity in less space with intelligent narrow aisle warehouse solution.

SERIES	EKX 4-5 ①	EFX 4	ETX 5
MODEL NAME	410   412   514   516   516k	410   413	513   515
LIFT HEIGHT (MM)	3,000–18,000	3,000–7,000	3,000–13,000
CAPACITY (KG)	1,000–1,600	1,000–1,250	1,200–1,500
TRAVEL SPEED (KM/H)	10.5–12	9	10.5
LIFT SPEED (M/S)	0.40–0.60	0.41	0.45–0.46

① Some of these models are available in the short version (k).

Easy multi-shift operation  
with high-performance  
lithium-ion technology.

Up high in a  
confined space:  
With lift heights of  
up to 18 metres.

Thanks to warehouseNAVIGATION,  
the EKK 516 finds the most efficient  
route to the destination by itself.

**LI-ION**  
technology

Greater safety and travel comfort on uneven floors with Floor Pro.



High rack stackers can be continuously automated and are optimally equipped for every task up to 24/7 operation.

### **EKX SERIES 4-5** **410 | 412 | 514 | 516 | 516k**

The EKX sets new standards in the narrow aisle. It achieves true maximum performance during storage and retrieval and order picking up to a lift height of 18 metres. With numerous truck options and high modularity, it fits perfectly into any storage system and storage strategy.

- ▶ Maximum individuality thanks to over 5 million configuration options for every application.
- ▶ Seven individually selectable service packages to increase performance.
- ▶ Flexible expansion of the application areas, from manual to semi-automatic to fully automatic operation.

Perfectly geared to the needs of the driver:  
The ergonomic workplace.





#### **EFX SERIES 4** 410 | 413

The EFX tri-lateral stacker can be operated in both guided and free-ranging mode. This makes it ideal for combined use in narrow aisles, wide aisles and in the apron field. Its front seat and laterally positioned mast allow unrestricted visibility of fork, load and route.

- ▶ **Maximum ergonomics thanks to optimally aligned controls.**
- ▶ **Integrated, handy steering wheel for precise and safe handling.**
- ▶ **Maximum safety through outstanding visibility.**



#### **ETX SERIES 5** 513 | 515

High rack stackers with swivel or telescopic forks set standards in terms of flexibility, profitability and ergonomics. Intelligent assistance systems also increase performance and safety. Thanks to their modular system, these trucks can be adapted to any warehouse and logistics strategy.

- ▶ **Maximum individuality thanks to over 5 million configuration options for every application.**
- ▶ **Camera/monitor system for effective storage and retrieval of pallets at great lift heights.**
- ▶ **Expandable to automatic mode for maximum efficiency.**
- ▶ **At 13 metres, the largest lift height on the market.**

# Rack shuttles for high handling capacity.

Semi-automatic shuttles save time, protect the stored goods and optimally utilise the available storage space.

## THE HIGHLIGHTS

- ▶ Maximum cube utilisation of the warehouse due to compact storage.
- ▶ Time savings through simultaneous use of industrial truck and autonomous rack shuttles.
- ▶ Collision-free storage and retrieval of pallets.
- ▶ High degree of flexibility due to the inclusion of different load carriers in the same racking system.
- ▶ Storage and retrieval available according to both LiFo (Last-in-First-out) and FiFo (First-in-First-out).
- ▶ Pallet shuttle can be used up to  $-30\text{ }^{\circ}\text{C}$  in cold store version.



Operation of the shuttle via handheld radio terminal.



The UPC Shuttle (Under Pallet Carrier) travels independently underneath the stored pallets.



Different UPC variants facilitate the handling of different load carriers.

The carrier picks up the load unit and automatically moves it to the next available free space, in the meantime the forklift truck is already collecting the next pallet.



# Special build for special requirements.

**Do you have specific transport  
and production tasks?  
We have the tailor-made solution.**

When goods are in transit, there are very specific environmental conditions, or if maximum savings potential is to be achieved, standard products can reach their limits. Special builds are the solution here, which we tailor to the specific application in question. This can be a specific load part that is combined with a standard drive part, a special crane attachment, or a particularly heat-resistant truck cover. Depending on the degree of customisation and quantity, we produce these special devices in short-run, custom or one-off products. The decisive factor is that your logistics processes become even more efficient.

## THE HIGHLIGHTS

- ▶ The perfect solution for every requirement.
- ▶ High savings potential thanks to perfect fit for your business.
- ▶ Fast implementation by supplementing standard trucks with special components.
- ▶ All safety standards and regulations are met as in series production.

**01**  
Carries even the heaviest wine barrels effortlessly: The **EJC 370** with its reinforced special load section.

**02**  
The **EJB 320** crucible transporter for foundries withstands extreme temperatures thanks to its heat-resistant all-round cover.

**03**  
The **ETW 22** with roller conveyor load unit is used in the furniture industry.

**04**  
The wide track load section with welded monomast makes the **EJB 3100** ideal for transporting printing equipment.

**05**  
The **ERK 390** bar transporter with flanged special load part for cable drums.

**The right special build for every industry.**

The requirements for special build are as different as the various industries and sectors. In mechanical engineering and the steel industry for example, these are often very robust solutions with higher capacities for heavy and bulky loads.

Environments with gas and dust present require forklift trucks with explosion protection. Others must meet special hygiene requirements, such as those found in the food industry. In any case, our special build forklift trucks make transport processes more efficient and safer. The significantly lower process costs justify any extra initial costs in the long term.



**The most important part of a successful special build: You.**

Good special build always requires comprehensive advice and close cooperation with you. Because only you know what you really need. According to your logistical task, we then take over the construction and production in a specially created plant for special build equipment in Lüneburg, Germany. The benefit: Maximum reliability and efficiency from mass production combined with innovative power and advanced engineering for sophisticated, investment-proof designs.



# Power on demand.

Rental solutions for every requirement, with over 600 different truck types.

**Short Term Rental:** Whenever things get tight, our rental trucks are the right choice. Always the right forklift truck at the right time and in the right place.


**Long Term Rental:** When it's more about the pure intralogistics benefit rather than owning a truck, our flexible rental models are just the thing.

**Li-ion Performance Rental:** Li-ion batteries and chargers as a fully integrated rental solution.

**Rental Fleet Management:** Make your forklift fleet flexible to deal with changing scenarios. More security and transparency at reduced costs.

**Power Buy the Hour:** Pay only for the time that is actually required with our attractive pay-per-use packages.

**Financing:** Flexibility also when it comes to purchasing the truck at the end of the rental period: From instalments to leases with a purchase option.



Forklift trucks, racks, storage facilities, chargers and batteries. Complete rental solutions in the warehouse have long been reality.

### RENTING VERSUS BUYING

The sharing economy is not based on rigid ownership but on the flexible use of goods. This thinking is revolutionising the entire world of intralogistics.

Forklift rental is not only worthwhile to cover short-term, seasonal requirements or cost-effective deployment in changing locations. To be able to use the required power with the right vehicle, at the right time and in the right place on demand is becoming increasingly attractive for the efficient operation of a warehouse. Investing in processes and auxiliary equipment that are not directly related to the core business of the company is often not economical. Rental frees up capital for further business growth.

### THE HIGHLIGHTS

- ▶ Rapid availability of all vehicles.
- ▶ Always on the cutting edge of technology.
- ▶ The entire Jungheinrich product portfolio also available as a rental solution.
- ▶ No risk due to potential truck changes and flexible returns.
- ▶ No overcapacity.
- ▶ More capital for your core business.
- ▶ Flexible and transparent billing models.

# As Jungheinrich as new.

**JUNGSTARS. Our best  
used trucks with 5-star quality.**

JUNGSTARS – Jungheinrich’s used trucks are among the best on the market. Because they are reprocessed by us according to the highest safety and sustainability standards. We are so confident of the quality and useful life of these trucks that each one comes with a twelve-month warranty – like a brand new forklift.

## **YOUR ADVANTAGES AT A GLANCE:**

- ▶ Large cost savings with the highest quality.
- ▶ Readily available. JUNGSTARS are available immediately.
- ▶ 12 month warranty on the truck.
- ▶ 12 month warranty on the battery.
- ▶ 12 months maintenance-free.
- ▶ Optional full service with mobility guarantee.
- ▶ Attractive financing options.
- ▶ New safety inspection.
- ▶ 10 day refund policy.
- ▶ Guaranteed spare part availability throughout entire service life.
- ▶ Trade-in of your used truck.



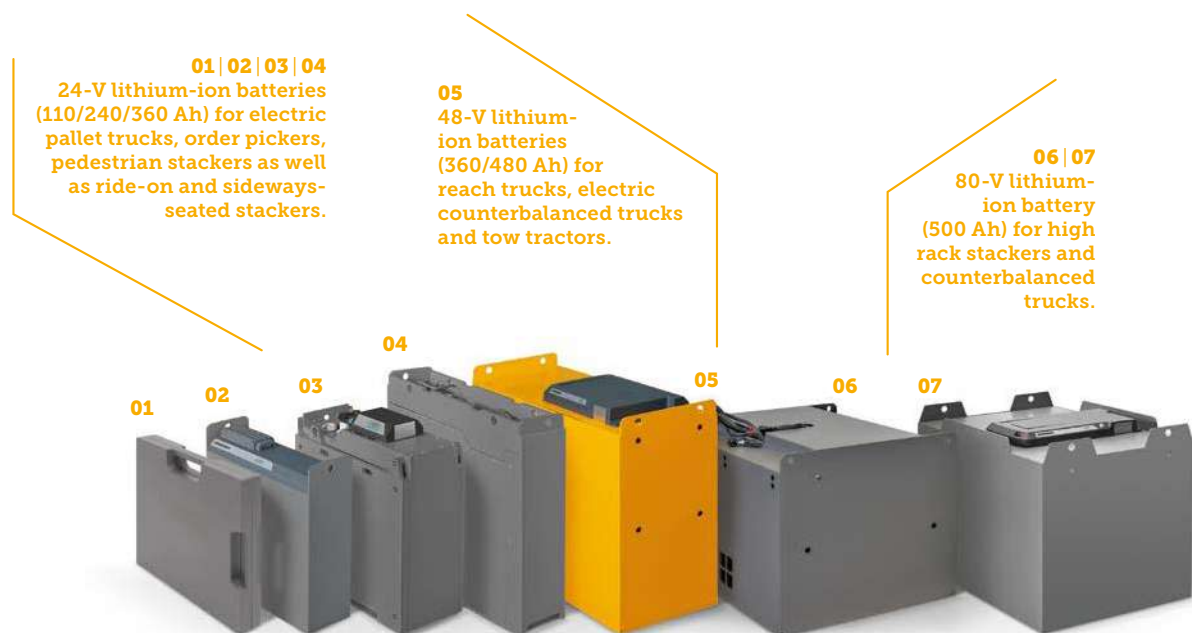


**The 5 star principle:** Each refurbished JUNGSTARS forklift leaving our factory meets the demands of our 5 star quality standard – for safety, technology, appearance, reliability and sustainability.

# Packing a whole lot of power.

The efficient use of energy has high optimisation and savings potential. Key player: Lithium-ion power.

Efficient energy use means the reduction of your total costs, higher ranges, continuous availability of the trucks, zero emissions and a positive energy balance. To ensure all this, we are the only provider that not only develops and produces the trucks and control modules in-house, but also the software, batteries and charging technology. This way, all components function in perfect harmony and reach their full potential.





**Lithium-ion technology:** Continuous performance, ultra-fast charging times and zero maintenance make lithium-ion batteries by far the most enduring energy source. The trucks can be used almost non-stop, power is always fully available, and with an extremely long service life, Jungheinrich offers a six-month satisfaction guarantee. In addition, we offer you our 8-year warranty on all Li-ion batteries. If you consider the TCO, it's worth making the transition – and in most cases a li-ion battery can be retro-fitted, regardless of operating hours.

### THE HIGHLIGHTS

- ▶ Up to 20 % less energy consumption than lead-acid batteries.
- ▶ Charges in just 30 minutes to 50 % and in 80 minutes 100 % charged.
- ▶ More endurance in multi-shift operation.
- ▶ No maintenance.
- ▶ Three times longer service life than lead-acid batteries.

**LI-ION**  
technology



Full li-ion power.  
Full conversion right.





Benefit from proven technology  
in 24 V, 48 V and 80 V versions.

**Lead-acid batteries:** Proven battery technology for powerful performance and maximum reliability – our closed standard lead-acid batteries are available in 24 V, 48 V and 80 V. We rely on liquid electrolyte and the proven tube plate technology.

### **TWO SHIFTS – ONE CHARGE. GUARANTEED.**

With 2Shifts1Charge the trucks are able to complete two shifts at a time, without having to have their batteries replaced or recharged. You save valuable time, valuable energy and at the same time reduce operating costs. This is achieved by the highly efficient control technology, ingenious energy management and state-of-the-art motor technology. Our newly developed synchronous reluctance motor in conjunction with lead-acid batteries converts around 93 percent of the energy into power, reducing energy loss by half.

**2SHIFTS  
1CHARGE  
GUARANTEED**

**Two shifts without battery  
change: Only Jungheinrich  
guarantees this.**



Jungheinrich chargers come largely from in-house development and production.

### 01

Our on-board chargers work with 230 volts for Europe and many other countries and 115 volts for North America.



### 02

The flexible all-purpose charger **SLH 300/300i** can recharge both li-ion and lead-acid batteries.



### 03

The **ETV 216i** with its integrated lithium-ion battery on the stationary charger.



**Stationary chargers:** Whether it's for highly efficient lithium-ion batteries or conventional lead-acid batteries, at Jungheinrich you will find the right charger for every battery technology. It guarantees the maximum life and performance of your battery and the optimal availability of your trucks, whether for one, two or three-shift operation, in light, medium or heavy duty, with or without intermediate charge. The Jungheinrich SLH 300/300i high-frequency charger and our SLT 150 charger with transformer technology are suitable for all applications with 24, 48 and 80 volts.

**On-board chargers:** The high-frequency technology ensures a gentle charge for all battery types. More than 60 years of experience with electric drives have gone into the development of our on-board chargers. They are best suited for use without battery replacement, also as an accompanying device. They are easy to handle: At the end of the shift or in between, the truck can easily be connected to a conventional power outlet, anywhere in the world.



Responsible analysis of the entire warehouse and your truck fleet.

**Energy management:** Electrically operated industrial trucks must be permanently energised to ensure that all work processes in the warehouse are cost-efficient. We have a comprehensive service package for the electrification of your vehicles: From providing replacement or rental batteries to care tips, status inspections via battery check to battery maintenance. The Jungheinrich charger service ensures the functionality of your chargers so that your batteries are not damaged during charging cycles and will be fully operational in the long term.

**Energy consulting:** For an easy transition to our lithium-ion technology, we can carry out an integrated energy consultation at your premises. Our area sales managers are also on hand during the implementation phase: From the retrofitting of individual trucks to the conversion of entire truck fleets.

## THE HIGHLIGHTS

- ▶ Our holistic energy management ensures safety in your warehouse and the optimum performance of your trucks.
- ▶ Take advantage of our comprehensive energy consulting and simply switch to our high-performance lithium-ion power.



Made for tough outdoor use:  
Diesel and fuel gas forklift trucks.

**Diesel and fuel gas forklift trucks:** The power behind our gas and diesel forklifts is durable and has proven itself over and over again: Powerful engines that have already been extensively tested in the automotive industry. Even at low speeds, they achieve high torque – perfect for your daily work in warehouses or production.

State-of-the-art engine technology gives the trucks particularly low to extremely low emission levels. And all this with minimal noise.

Our new generation of diesel and gas forklifts are equipped with hydrostatic drive. As this technology requires fewer mechanical components, these trucks are correspondingly low maintenance. Compared to competitor trucks, they also offer the highest throughput with the lowest fuel consumption.

## THE HIGHLIGHTS

- ▶ Robust and durable even in the most rugged applications.
- ▶ Efficient with state-of-the-art engine technology.
- ▶ Low noise for use near residential areas and to protect your operators.
- ▶ Low maintenance with hydrostatic drive in the latest generation of trucks.
- ▶ Highest throughput with lowest consumption levels compared to the competition.

A warehouse is not a children's playground. But it should be as safe.

# Everything safely under control.

Our 360° protection for the five risk areas in the warehouse: People, goods, storage facilities, machinery and data.





## 360° PROTECTION

- 1 Protecting people:** You can fully rely on our holistic safety concept. To protect your employees in the warehouse from collisions with industrial trucks or other accidents, we offer a variety of truck options. And because the health of your employees is important to us, we ensure that the workplace is ergonomically designed, enabling your operators to always work safely, ergonomically and efficiently.
- 2 Protecting goods:** Your stored goods are a precious commodity. A range of assistance systems helps you protect them professionally while saving time and money. This not only secures your goods and employees in the warehouse, but also improves productivity and delivery reliability.
- 3 Protecting warehouses and storage facilities:** Our preventative services help to prevent dangers caused by damaged storage facilities. This keeps your processes safe and your valuable goods protected.
- 4 Protecting machinery:** With a vast range of features and regular maintenance, we help you to minimise accidents involving industrial trucks and to ensure their long-term availability. This not only protects your personnel, but also reduces the cost of repair and maintenance. It also means lower costs.
- 5 Protecting data:** In times of increasing digitisation and networking, solutions for outage and data security are part of every safety concept. We attach great importance to ensuring that our digital solutions meet the highest security standards. So that hackers have no chance, we have our software and web applications certified by independent experts. This effectively protects your valuable company data and information.

# Racking systems from Jungheinrich. The backbone of your warehouse.

**Future-proof planned warehouses  
that not only bear loads  
but also withstand changes.**

Future-proof planning is the be all and end all when it comes to your warehouse. That is why we at Jungheinrich have been focusing on in-house developments, tailor-made solutions and top quality for more than 60 years, from planning through to after sales. Our wide portfolio ranges from the storage of pallets, containers, trays and boxes to long goods. Even when your racking solution is up and running, we continue to ensure consistent quality and safety levels in your warehouse. On request, one of our over 120 certified inspectors will carry out the annual inspection required by DIN EN 15635. If any components are damaged, they will be replaced using original spare parts. The inspection takes place during operation in the warehouse using a standardised inspection protocol and is subsequently documented with a test sticker.

## PALLET STORAGE STATIC



**Wide-aisle multi-bay racking:** The all-rounder for a wide range of applications. Ideal for use with large volumes of identical items.

### THE HIGHLIGHTS

- ▶ Direct access to all items.
- ▶ Heights up to 20 metres can be realised.
- ▶ For manual and automatic rack operation.
- ▶ Optimum adaptability.



**Narrow-aisle multi-bay racking:** Ideal for a small area. With extremely high lift heights, greater throughput can be achieved with narrower aisle widths.



**Single-bay racking:** This offers direct access to all items and optimum space utilisation especially for wire mesh boxes and high individual loads.



**Drive-in/drive-through racking:** The drive-on solution for compact storage. Ideal for storing large quantities of heavy goods in cases where there is little variation between the items.

Direct access to all pallets and flexible adaptation for wide-aisle multi-bay racking.

## PALLET STORAGE DYNAMIC



**Shuttle compact storage system:** Shuttles move underneath the stored pallets to transport them through the rack channel. This allows for improved space utilisation and greater throughput.

### THE HIGHLIGHTS

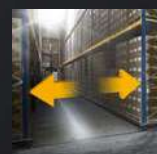
- ▶ Maximum utilisation of space thanks to compact block storage.
- ▶ Easy to connect with your warehouse management system.



**Live storage racking:** Live storage racking is recommended when you use the FiFo method and want to move a large number of identical pallets.



**Push-back racking:** Unlike with drive-through racking, the goods are stored and retrieved from just one side. This type of dynamic storage is often used for buffer channels.



**Mobile racking:** These racks save up to 90% of rack aisles, as entire rack blocks can be moved back and forth on rails so that only a single aisle is required.

## SMALL PARTS STORAGE

### STATIC



**High bay shelving:** Immediate and direct access to any item by storage on rack units.

### THE HIGHLIGHTS

- ▶ Quick access to all items.
- ▶ Variable adaptation to the stored goods through extensive range of accessories.
- ▶ Efficient use of room height, realisable over 12 metres.
- ▶ Perfect combination with our vertical order pickers.



**Multi-tier shelving:** Thanks to the multi-storey design, staff can pick and place on several levels one above the other at the same time.



**Shelving:** Immediate and direct access to any item by storage on rack units. Thanks to simple components, the modular high bay racking allows for tailor-made adaptation to your space and use.

## SMALL PARTS STORAGE

### DYNAMIC



**Vertical lift system/paternoster racking:** A closed system in which the small parts are transported by the shortest route either by lift or by rotation to the operating opening.

### THE HIGHLIGHTS

- ▶ Fast access to the goods which are being stored thanks to the high throughput speed.
- ▶ Optimum use of space thanks to the high-density storage concept and full utilisation of the room height.
- ▶ Ergonomic design combined with extensive safety features.
- ▶ Can be connected to any warehouse management system via the logistics interface.



**Carton live storage:** Here the stored goods move forward automatically on slightly inclined runways to the removal point. The compact shape allows for short distances during order picking.



**Mobile shelving:** For storing items that are not constantly required. The rows of racks can move apart at the required point, thereby creating a single working aisle.

## LONG GOODS STORAGE & PLATFORMS



**Cantilever racks** are suitable for long goods of any kind.

**Cantilever racking:** In this racking system loads are carried by cantilevers on the rack frames. The system can be extended with additional elements as required.

### THE HIGHLIGHTS

- ▶ Suitable for outdoor use, with canopy and wall cladding available.
- ▶ Can be used as a mobile racking system.



**Steel construction platform:** Self-supporting, walk-on and optional drive-on steel construction, which creates new working surfaces through additional levels.

## RACK INSPECTION



Even when your racking solution is up and running, we continue to ensure consistent quality and safety levels in your warehouse. On request, one of our 120 certified inspectors will carry out the annual inspection required by DIN EN 15635.

### THE HIGHLIGHTS

- ▶ Racking system tested in accordance with EN 15635.
- ▶ A test report is provided.
- ▶ Any damaged components are replaced with original parts.

# System provider with experience.

Intelligent intralogistics is the best possible interaction of man, machine, software and individual storage environment.

We optimise the flow of goods for you – for highly efficient warehousing processes.


Based on our comprehensive process know-how and experience, we develop the best individual intralogistics solution for you. For small businesses as well as for global companies with complex warehouse environments and a high degree of automation, we will find the right strategy for you and will make things happen – from intelligent software solutions to the construction of turnkey, automated logistics facilities. We are always at your side, starting with the consultation, analysis and planning, through implementation to the maintenance and training of your employees.

**“More efficiency in the warehouse through creative lateral thinking.”**

## THE HIGHLIGHTS

- ▶ Comprehensive process knowledge and experience in a wide range of industries.
- ▶ Individual system identification.
- ▶ In-house development and production of the critical system components.
- ▶ Everything from a single source, from analysis and planning to maintenance and training.

This gives you the certainty that everything is perfectly interlinked at all times and your intralogistics processes remain reliable and highly efficient in their flow. In this way, we fulfil our responsibility as your global solution partner and uncompromisingly support you in implementing your long-term corporate vision.



Successful companies  
need a strong partner to  
be able to design intra-  
logistics processes  
for the future.

Whether  
manual, semi or  
fully automated  
storage systems, we  
are your solution  
partner for new ways  
and strategies.

If you think  
laterally, you will  
reach your desti-  
nation faster.

# Material flow consulting. Plan your resources with us.

You can only achieve maximum efficiency and productivity if all the resources of your logistics site are perfectly coordinated. Especially if your company is growing and you need to realign your processes, it pays to take advantage of professional material flow consulting.

## A fresh look at your processes.

New challenges arise with high customer demands, a change in product range and increased intra-logistics processes. Jungheinrich's material flow consulting identifies optimisation potential and makes your company fit for the future.

## THE HIGHLIGHTS

- ▶ **Holistic:** from initial consultation to complete implementation.
- ▶ **Experienced:** regardless of industry, customer size or degree of automation.
- ▶ **Unbiased:** solution-oriented market analysis.
- ▶ **No obligation:** fee-based with free choice of your implementation partner.

## Material flow consulting is always worthwhile if you ...



... wish to reduce operating costs across the board.



... have reached the limits of your capacity.



... wish to exploit the opportunities of automation.



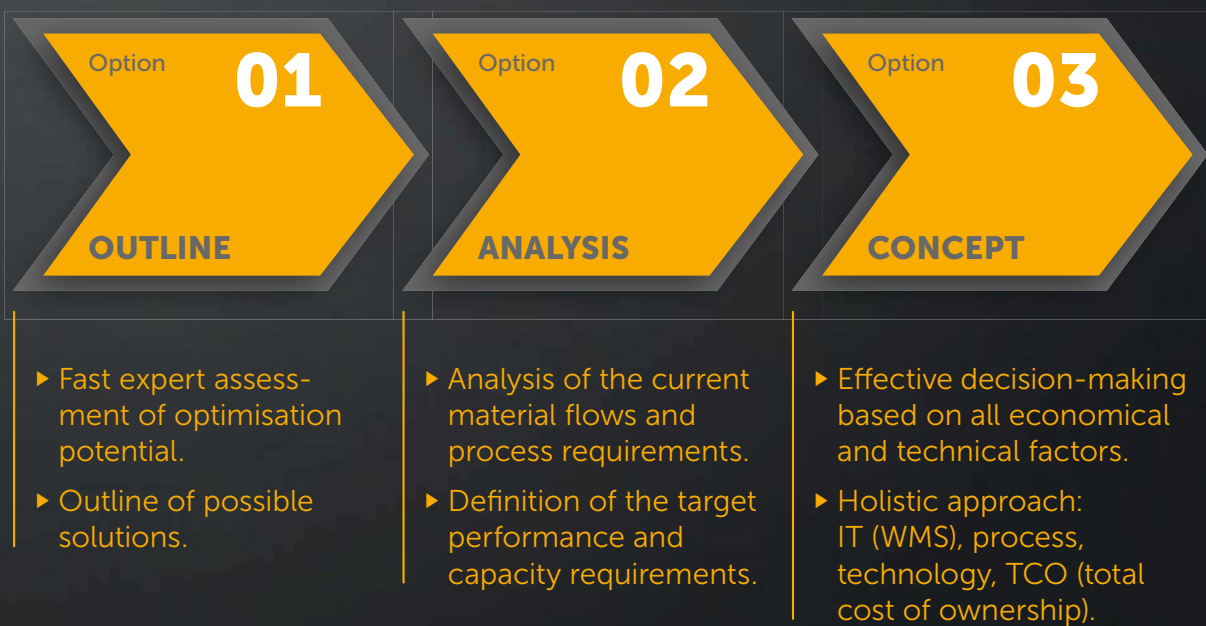
... wish to act in an energy-efficient manner.





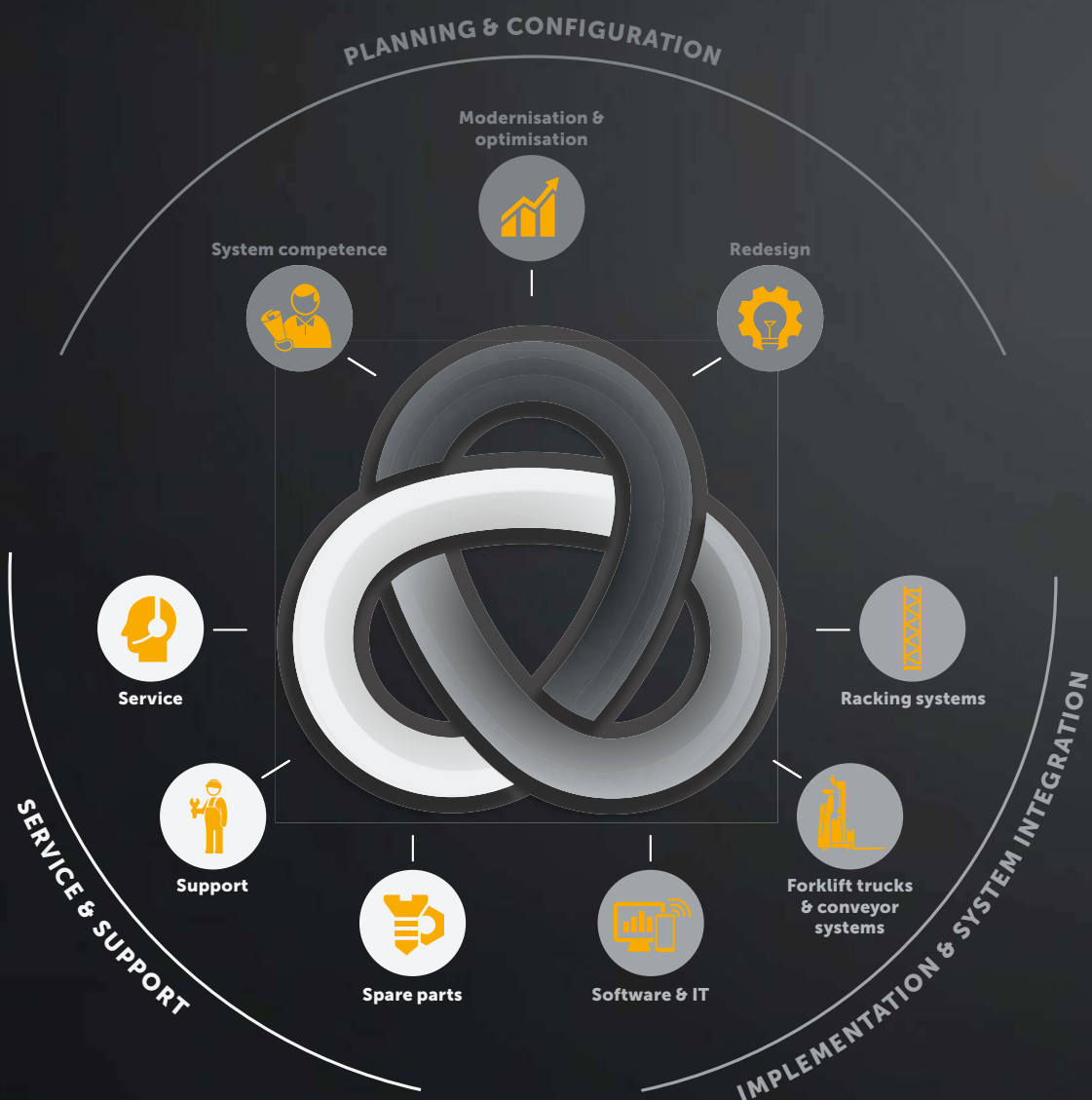
### How does the material flow consulting service work?

Choose for yourself: We offer you several options from initial global reviews to detailed concepts, including in combination:



# Efficiency in motion. Automation from analysis to satisfaction.

Automation can take the efficiency and performance of your warehouse to a whole new level. Together with you, we develop new solutions and implement the system with the optimum degree of automation for you. Step by step. From planning through implementation to service and support.





### **Planning and configuration.** **Customised logistics process.**

Together with you we plan and project your new logistics solution. With our experience from many industries and for different company sizes, we also put in place for you the solution tailored to your needs.

- ▶ Questioning old structures and creative thinking.
- ▶ Individual solution identification with optimal degree of automation.
- ▶ International experience in a wide range of industries.

### **Implementation and system integration.** **A one-stop shop.**

As a general contractor, we ensure that every step in the process is carried out with pinpoint accuracy and ensure that all components interact perfectly. Maintaining everything from a single source means optimal process reliability for you – during the project and when operating your system.

- ▶ Reliable, transparent project management.
- ▶ One contact partner for all functions.
- ▶ Everything from a single source, ensuring all components work perfectly together.



### **Service and support.** **By your side for the long term.**

With a service network that is unique in the industry, we are always at your side even after the project has been completed. Our service technicians carry out maintenance, inspections, safety inspections and repairs. And our support hotline is available around the clock if you wish – to minimise downtime and ensure optimal system availability.

- ▶ Worldwide, reliable and cost-transparent service.
- ▶ A competent partner by your side around the clock.
- ▶ Highly qualified service technicians for all requirements.

# Automatic small parts warehouse.

High storage density, speed and precision are crucial for small parts storage. The Jungheinrich rack operating device excels with top values in terms of throughput, cube utilisation and energy efficiency.

## Automation brings maximum performance to the small parts warehouse.


Automatic small parts warehouses are designed for extremely space-saving storage of small parts in containers, cardboard boxes or trays. The goods are stored on angle supports or racking units – in conjunction with our stacker cranes with full use of the ceiling height of up to 25 metres. Automatic small parts warehouses can be used under normal and temperature-controlled conditions, and as deep-freeze storage up to  $-30^{\circ}\text{C}$ . Depending on the industry, we plan and implement your small parts warehouse individually according to your requirements.



## Stacker crane for small parts

The most powerful rack operating device in its class excels with both high travel dynamics and reduced start-up dimensions. Energy storage systems (SuperCaps) specially adapted to the travel and load pattern store the energy generated during braking processes and feed it back into the drive system during subsequent accelerations. The result: Significantly reduced operating costs.

- ▶ Top performance values: Maximum acceleration of  $> 5.3 \text{ m/s}^2$  for maximum travel speeds of  $> 6 \text{ m/s}$ .
- ▶ Highest energy efficiency levels through brake energy storage in SuperCaps.
- ▶ Outstanding cube utilisation thanks to the lowest starting dimensions in its class.



High-density small parts storage under full cube utilisation up to 25 meters in height in connection with our rack operating device product family.

Maximum throughput, optimal use of space and energy efficiency: The rack operating device with energy storage in SuperCaps.

Storage of boxes, containers and trays for every industry and individual requirement.

Maximum handling capacity with the optimal interaction of rack operating unit, rack, conveyor technology and software.

# Automated pallet warehouse.

Greater throughput, more speed and safety in material flow – automatic warehouses respond to increased market requirements.



## EKX 514a–516a

The EKXa is characterised by maximum performance in the automatic processing of warehouse tasks at high lift heights. Thanks to its low energy consumption, it can run for two shifts without a battery change, even in demanding applications. With an optional on-board charger plus busbar and collector, the EKXa is also well equipped for 24/7 use.

- ▶ With a lift height of up to 13 metres.
- ▶ Scalable performance thanks to step-by-step automation.
- ▶ Power supply by battery replacement or by charging via busbar for 24/7 use.



## Pallet rack operating unit

These represent maximum speed in the pallet warehouse with reach lift heights of up to 45 metres. They can be used either as an aisle-bound rack operating unit with the highest degree of cube utilisation or as a roaming version that can serve several rack aisles at the same time. A range of load handling devices enables easy, double or multi-depth storage, thus ensuring maximum throughput in the warehouse.

- ▶ With a height of up to 45 metres and a capacity of up to 7 tons.
- ▶ Available as a free-standing silo or built-in warehouse version.

The perfect combination of racking system, software and machine makes the automatic pallet warehouse highly efficient.

Highly reliable and based on tried-and-tested standard vehicles, supplemented by an automatic kit.

Highest throughput – if required for 24/7 operation using busbars.



# Conveyor technology.

Innovative pallet and container conveyor technology for new plants and existing installations brings greater productivity into your warehouse.



## Container conveyor technology

Automatic container conveyor technology is the key to intelligent warehouse automation. The focus here is on the conveying, sorting, inward and outward transfer, and the buffering and stowage of goods. In conjunction with the Jungheinrich Warehouse Management System, this will raise your material flow to a higher level and automate your overall process.

- ▶ Flexible transport of containers, boxes, trays and products up to 50 kg.
- ▶ Fast work processes with transport speeds of up to 1.50 m/s.



## Pallet handling technology

Thanks to its modular design, our pallet handling technology can be tailored precisely to your material flow requirements. Whether roller, belt or chain conveyors, transfer cars, lifting and rotary tables or belt lifters – your profitability and productivity are always the focus when selecting the right components.

- ▶ Modular design of the systems allows flexibility for standard applications or more complex requirements.
- ▶ Pallet conveying speed of 0.45 m/s for high throughputs.





Flexible warehouse automation for highly efficient intralogistics processes, perfectly controlled by our Warehouse Control System.

Efficient bridging of long distances and innovative conveyor and distribution solutions in the smallest of spaces.

Synchronised with in-house control technology for the highest performance of the material flow.

# Automated Guided Vehicles.

Software-controlled, automated trucks reliably process repetitive work orders, thereby reducing employee workload and increasing the safety and efficiency of warehouse processes.

## Automated guidance on a reliable basis.

Automated guided vehicles (AGVs) handle repetitive tasks with large handling volumes particularly safely and efficiently. The automation of warehouse processes is not only worthwhile in new buildings. Integration into existing warehouse structures also helps to optimise the logistics processes and enables flexible implementation of subsequent layout changes. To avoid downtime in the launch phase of an AGV in your warehouse, we simulate the optimal routes in advance and thoroughly test the hardware and software. As a result, you achieve maximum process reliability right from the start – even in mixed operations mode. Extensive safety sensors protect people, load and machines.



### ERE 225a

The ideal automated vehicle for transporting heavy loads on ground level and particularly efficient for multi-pallet transport.

- ▶ With a load capacity of up to 2.5 tons.
- ▶ Long forks for multiple pallet transport.

### EZS 350a

The driverless tow tractors take the strain off your personnel and ensure highly efficient processes.

- ▶ With a tow capacity of up to 5 tons.
- ▶ Use already existing routes.



### EKS 215a

This automated vehicle is ideal for transporting special load carriers and closed pallets thanks to its cantilevered forks.

- ▶ With a lift height of up to 6 metres and a load capacity of up to 1.5 tons.



### ERC 213a | 217a

The ideal Automated Guided Vehicle for transport applications even in confined spaces and in narrow aisles.

- ▶ With a lift height of up to 3.5 metres and a capacity of up to 1.7 tons.
- ▶ Wide range of applications thanks to compact design.

The EZS 350a accurately transports loads to millimetre precision thanks to laser navigation.

With personal protection scanner installed in the drive direction.

Laterally mounted laser scanners for predictive recognition of objects.

Also available with lithium-ion technology for even more power



# Autonomous mobile robots.

Automation, more agile than ever. With the versatile autonomous mobile robot (AMR) arculee, we are setting new standards for autonomous means of transport.

Autonomous robots are characterised by their ability to navigate freely within a defined area, to avoid obstacles and to pick up a load carrier while taking its position and orientation into account. The latest addition to Jungheinrich's portfolio can accomplish exactly that: It goes by the name of arculee and is guaranteed to breathe new life into your warehouse.

It is particularly adept at underload transport and goods-to-person order picking. It transports entire pallets or just small parts from A to B quickly and flexibly. Alternatively, it can compile individual baskets of goods and convey them to the picking workstation.



## Straightforward system integration.

The arculee is not only impressive in terms of hardware. A standardised VDA 5050 interface allows it to be seamlessly integrated into your logistics processes. In addition, the fleet management system arculus FLEET can be used to control the AGVs and AMRs of different manufacturers, so that all devices are orchestrated in one solution. Communication with your host system takes place via the award-winning Jungheinrich Logistics Interface. As a result, arculee will immediately become an integral part of any expandable and scalable warehouse strategy.

- ▶ Small and agile transport solution that can be used across all business sectors.
- ▶ Simple system integration thanks to the standardised VDA 5050 interface.
- ▶ High level of availability thanks to maintenance-free lithium-ion technology.
- ▶ Recoup costs in less than 2 years.
- ▶ High throughput with a capacity of up to 1,000 kg (arculee S).

Efficient: 30% increase in productivity in underload transport.

Suitable for mixed operation thanks to sophisticated safety sensor technology.

Goods-to-person order picking: Less susceptible to errors than a manual order picking process.

Simple system integration thanks to the standardised VDA 5050 interface.





## Order picking and palletisation.

Our efficient order picking solutions ensure significant performance increases in your warehouse: Fast, powerful and error-free.

The voice-based **Pick-by-Voice** dialogue system intuitively supports your employees in optimising their workflows.

### Order picking systems

We offer a wide selection of order picking systems to meet your specific needs. The various picking techniques cover everything: From full pallet shipping to the smallest lot sizes in e-commerce real-time shipping. The uncomplicated systems are intuitive to use and increase your productivity significantly.

#### Pick-by-voice

Thanks to intelligent voice control, your employees have their hands free at the picking workstations. The order picker works with a headset instead of manual or digital order lists and verbally communicates with the picking system.

#### THE HIGHLIGHTS

- ▶ Greater handling capacity thanks to increased picking speed.
- ▶ Language independent and easy to use for every user.

#### Pick-by-light

Paperless Pick-by-light picking ensures faster warehouse processes. The bin directly displays the quantities to be withdrawn. By connecting to the Warehouse Management System and reducing the process to a minimum, your staff will pick more efficiently and in real time.

#### THE HIGHLIGHTS

- ▶ High level of comfort and ease of use.
- ▶ Increased handling capacity with free hands during order picking.
- ▶ Minimisation of error rate by displaying the quantity to be withdrawn.

With the semi-automatic **easyPILOT Follow** control, the vehicle automatically follows its operator and stops as soon as he or she stops.

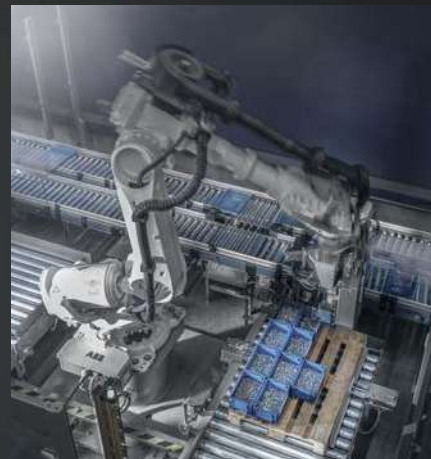


### **easyPILOT Mobile control system**

The intuitive easyPILOT remote control system increases the performance of our best-in-class ECE low level order picker even further. The mobile control system is connected to the vehicle via NFC and automatically steers it to its destination. Unique feature: easyPILOT can even be connected to the Warehouse Management System.

### **THE HIGHLIGHTS**

- ▶ Up to 30 % more picks per hour.
- ▶ Increase the picking performance by automatically controlling the vehicle to its destination.
- ▶ The only remote solution on the market that can be connected to the Warehouse Management System.



### **Robot order picking**

For order picking on pallets we also supply fully automatic systems: From simple layer palletisation to the construction of complex mixed pallets. Depending on the application, the optimum robot and gripping technology is used – for high-performance picking.

### **THE HIGHLIGHTS**

- ▶ Increase pick rate by up to 50 %.
- ▶ Seamlessly integrated into existing systems.
- ▶ Maximum picking quality thanks to state-of-the-art technology.

# Software and IT systems.

Intelligent networking is the basis for optimal processes in the warehouse, whether manual or automatic. With Jungheinrich, you also get Industry 4.0 in your warehouse.

## THE HIGHLIGHTS

- ▶ Individual and industry-independent Jungheinrich Warehouse Management System (WMS) for intelligent and efficient warehouse management and control.
- ▶ Easy transition to the digitisation of warehouse processes with the tried-and-tested and standardised processes and functions of Jungheinrich WMS Essential.
- ▶ Perfect communication between trucks, warehouse equipment and warehouse management system via our flexible interface solution, Jungheinrich Logistics Interface.
- ▶ Efficient management of individual processes and warehouse areas with our Device & Process Management solutions.
- ▶ Intuitive fleet management for more safety and productivity within the fleet thanks to Jungheinrich FMS.
- ▶ Guaranteed future-proofing thanks to forward compatibility of systems, unique in the industry, with constant further development based on the latest intralogistics trends.



Jungheinrich WMS and Jungheinrich Logistics Interface: Intelligent warehouse management and networking of your trucks, warehouse equipment and software.



Efficient fleet management with Jungheinrich FMS: Commercial data and truck data at a glance.



Flexible device & process manager: Solutions for efficient management of your AGVs and warehouse lifts as intelligent stand-alone systems.



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From analog to digital: The Jungheinrich WMS Essential is the simple and cost-effective solution for efficient control of small and medium warehouses.

Digitisation as the key to success.



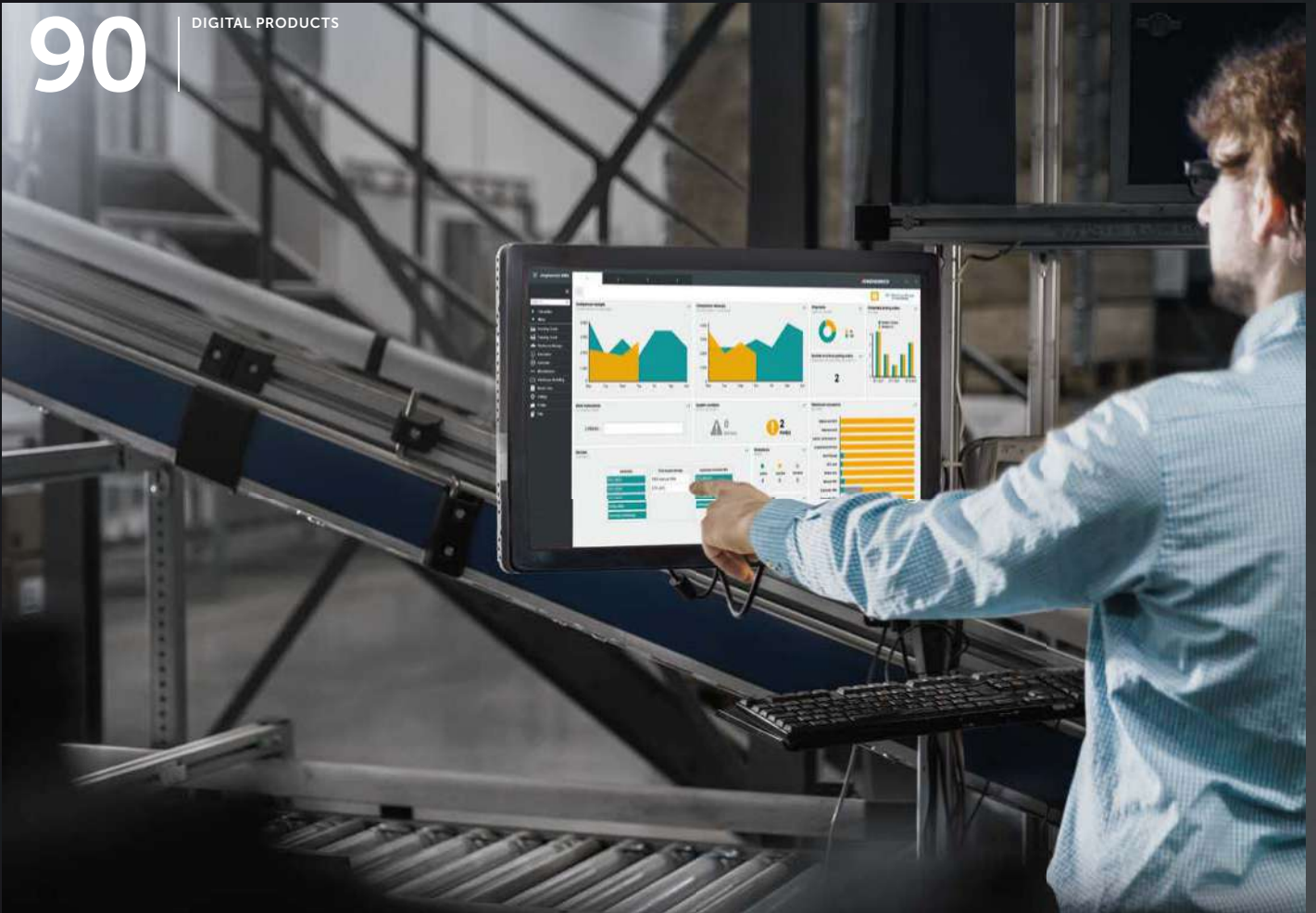
Product Code: 10000031  
Description: Recorder  
Quantity: 1 Box  
Batch: BG-01-033-01



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Unique licensing model and financing options.

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Whether customised Jungheinrich WMS or low-priced WMS Essential: Digitisation and networking make logistics processes more efficient.

## Jungheinrich WMS

When it comes to optimising the flow of goods in the warehouse and managing your warehouse more easily and efficiently than before, the intelligent and industry-independent Jungheinrich Warehouse Management System (WMS) is the solution for you. It manages your warehouse holistically, thereby ensuring sustainably optimised and simple processes, from goods receipt, through order picking, to loading in goods issue. In addition, we guarantee a uniquely high degree of user-friendliness and future-proofing for your warehouse management through constant further development, basic adaptability through modular design and multi-dimensional configuration model.

### THE HIGHLIGHTS

- ▶ Intelligent warehouse management system for maximum efficiency.
- ▶ Intuitive operation thanks to user-friendly interface.
- ▶ Full forward compatibility for unique future security.

## Jungheinrich WMS Essential

The software package provides a basic introduction to digitisation with field-proven and standardised processes and functions. You can keep an eye on your inventories and orders and manage all processes efficiently. Like our WMS, WMS Essential is forward compatible and can be expanded at any time to meet your new requirements.

### THE HIGHLIGHTS

- ▶ Rapid and easy integration.
- ▶ Efficient process optimisation.
- ▶ Attractive entry price.



Your warehouse equipment including your radio data terminal is connected directly to the warehouse management system, ensuring greater productivity.

### Interface Management and Device & Process Management

Our versatile Jungheinrich Logistics Interface software ensures the perfect networking of your trucks, warehouse equipment and warehouse management system and can be easily integrated into your existing software environment. This means your hardware is directly connected to the IT landscape and your trucks are controlled with optimised efficiency.

The flexible solutions of Device & Process Management offer you a range of additional possibilities for warehouse digitisation and automation. For example, the AGV Manager and the LRK/PRK Manager enable you to efficiently control your systems or lift racks, even without a WMS.

#### THE HIGHLIGHTS

- ▶ Simple and efficient communication between hardware and software.
- ▶ Wide range of applications.
- ▶ Integration into your existing warehouse environment.
- ▶ Intelligent networking of individual areas and processes.

### Industrial IT & Scanning Solutions

Throughput, efficiency and quality can be significantly increased by mobile connection of staff in the warehouse. It is also possible to react more flexibly to changed order priorities by using data radio systems. We plan and integrate the complete data infrastructure for you, from truck and hand-held terminals to barcode scanners and label printers to WLAN infrastructures and much more.

#### THE HIGHLIGHTS

- ▶ Real-time receipt of transport orders and information from WMS directly on the truck.
- ▶ Paperless order processing for greater efficiency, flexibility and quality.
- ▶ Mobile terminals and workstations for ergonomic and flexible work in the warehouse.



Flexible fleet management system which optimises costs.

## Jungheinrich FMS

Jungheinrich FMS is your digital solution for efficient and cross-location control of your industrial truck fleet. The web-based tool combines truck and commercial data in a single system and, with its comprehensive analyses, provides you with accurate data for concrete decisions. Thanks to various cost and productivity analyses, digital access control and the reporting of shock events, you can increase the utilisation of your fleet, reduce operating costs and enhance safety for humans and machines.

## THE HIGHLIGHTS

- ▶ Maximum safety thanks to access authorisations and shock event reporting.
- ▶ Complete cost transparency and identification of potential savings.
- ▶ Detailed fleet evaluations to increase productivity.
- ▶ Intuitive system with customisable alerts and visual highlighting of relevant fleet information.
- ▶ Future-proof IoT platform with optional data interface.



Effective protection for your trucks: Easy access control without universal key directly via the truck display.

## EasyAccess

The EasyAccess access control system protects industrial trucks against unauthorised use and thereby effectively increases safety in the warehouse. The intelligent "key technology" allows access directly via the truck display. These access codes are assigned individually to employees, which makes the universal vehicle key unnecessary. EasyAccess is available in three variants: EasyAccess softkey – you can set and manage ten different codes on the display; EasyAccess pin code – 100 different codes can be assigned to different operators; and EasyAccess transponders – transponder cards are used for access control. Here too, up to a hundred different transponders can be read in and managed.

## THE HIGHLIGHTS

- ▶ Increased safety in the warehouse thanks to protection against unauthorised use.
- ▶ Reduction of operating costs by avoiding forced damage to vehicles and racks.
- ▶ Management of access codes or transponder IDs directly on the truck display – no setup and administration costs.

# Always by your side: Jungheinrich Service.

In the increasingly complex world of intralogistics, you can rely on a true constant: Our expert team in after sales service, support and spare parts logistics.

## THE HIGHLIGHTS

- ▶ Premium services with manufacturing expertise not only for all Jungheinrich trucks but also those from other manufacturers.
- ▶ Best-in-class spare parts availability and shortest response times to avoid expensive downtime.
- ▶ Worldwide supply of Jungheinrich original spare parts.
- ▶ Worldwide 24/7 service and support for your logistics systems.
- ▶ Individual service and support packages for maximum cost security and transparency.




Perfect service and support. Around the clock and always nearby.



More than 5,700 highly trained Jungheinrich after-sales service engineers are deployed worldwide.



We guarantee maximum availability of original spare parts.

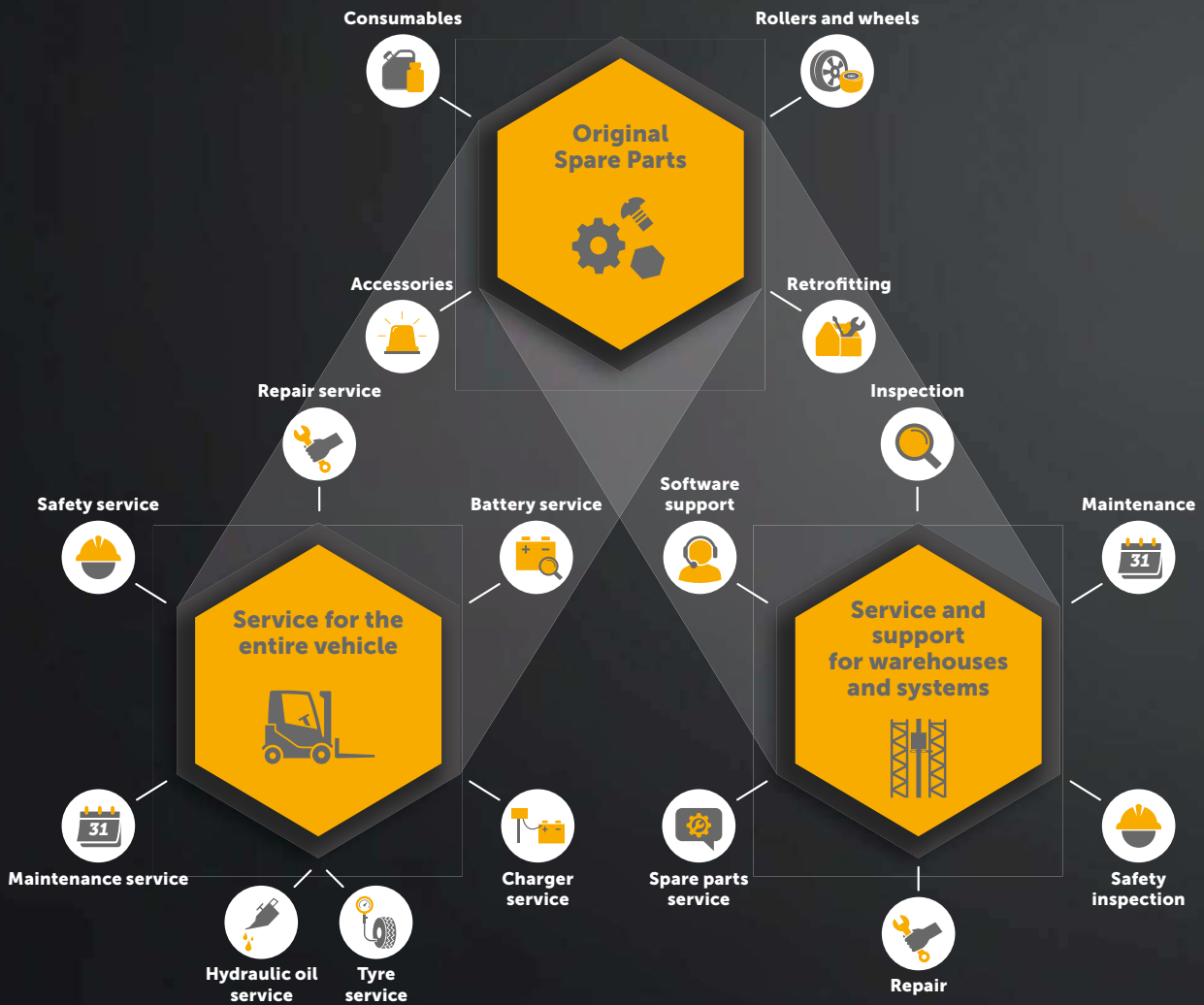


High process  
reliability by  
ensuring system  
availability.

Minimal  
downtime thanks  
to rapid spare  
parts availability.

# All services at a glance.

Whether maintenance, repair or safety inspection, we guarantee all-round service at the highest level from a single source – worldwide.







### Service for the entire vehicle.

More than 5,700 highly trained Jungheinrich after-sales service engineers ensure that your industrial trucks are operational every day, regardless of whether they come from us or another manufacturer. We not only take care of necessary service repairs, but also the regular maintenance of the trucks. We also do all the prescribed safety inspections for you.

- ▶ Minimal downtime thanks to fast spare parts supply.
- ▶ Shortest response times through a compact, world-wide service network.
- ▶ Premium service with manufacturing expertise.
- ▶ Permanently high level of truck availability thanks to regular interval services.



### Original spare parts.

We offer a worldwide, fast and reliable supply of Jungheinrich original spare parts. More than 100,000 original spare parts, which are generally available for more than 10 years, can reach any location within a very short time thanks to our worldwide distribution network.

- ▶ Maximum reliability with 98 % spare part availability.
- ▶ Shortest response times through overnight express delivery within Europe.



### Service and support for warehouses and systems.

We ensure 24/7 that your system works constantly at a high level. Our individual support and service packages guarantee you maximum cost security and transparency. Worldwide, 365 days a year.

- ▶ High process reliability by ensuring system availability.
- ▶ Longer system life through regular inspection and maintenance.
- ▶ Shortest solution times through service and support from a single source.

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

**CE** Jungheinrich trucks  
conform to the European  
Safety Requirements.

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