

# Are you looking for top class throughput with maximum driving comfort?

We can offer you diesel/LPG fork lift trucks with hydrostatic drives and capacity from 1,600 to 5,000 kg.

**JUNGHEINRICH**

Machines. Ideas. Solutions.



**Hydrostatic drive gives  
you increased output with  
less stress.**





Are you looking for a new opportunity to increase the efficiency of your goods throughput? We have the perfect solution for you: Our diesel/LPG fork lift trucks with hydrostatic drive. The formula for high drive and lift performance and excellent driving characteristics, combined with low consumption and CO<sub>2</sub> output.

#### Hydrostatic drive:

#### The drive technology for the highest throughput performance and maximum driving comfort.

- Quick and direct acceleration.
- Very precise control of travel speed. The truck is very responsive.
- Sensitive, controlled and regulated braking.
- Quick and dynamic changes of direction.
- Automatic increase in rpm when the hydraulic functions are engaged.
- Internal development and manufacture of controller software and hardware.

#### Saving costs through the highest level of energy efficiency

##### Energy consumption



TFG 320s

2.3 kg/h

Competitor Ø

2.6 kg/h

Fuel consumption taking the series 3s as an example: Optimum performance with five operating programs. These features further reduce fuel costs.

##### Throughput



TFG 320s

77 pallets/h

Competitor Ø

70 pallets/h

Throughput according to VDI. The hydrostatic drive converts any pedal movement directly into smooth acceleration.

# To make sure you gain everything out of it, we only put the best into it.

## **Ideal truck setup**

The newest controller generation in software and hardware 'made by Jungheinrich' has succeeded in making the trucks more efficient and driving them more satisfying.

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## **Minimum human vibrations**

The operator module is supported on shock absorbers, ensuring maximum absorption of vibrations. For fatigue-free work over long shifts.

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## **Fast, dynamic change in direction with hydrostatic drive**

The hi-tech hydrostatic drive guarantees maximum throughput with low consumption. Another major advantage: The long-lasting and often wear-free components.

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## **Efficient operating hydraulics\***

The variable displacement pump for the operating hydraulics ensures that only the oil volume really required is actually delivered. This results in optimised efficiency and lower fuel consumption.

\* As standard for Series 4s and 5s.

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### Constant operating temperatures

The high-performance cooler is designed to handle extreme temperatures and maintains the temperatures necessary for the engine and hydraulic components at an optimum level.

### Maximum stability and driving safety

The high mounted fully floating axle and the truck's low centre of gravity ensure stability and driving safety in all situations – without the need for electronics.

### Powerful engines which protect the budget and the environment

- Low consumption due to high torque with low rated speed.
- Significantly lower than the statutory emission limit values.

### Fully automatic diesel particle filter\*

The filter system consists of a fully automatic regeneration unit. Soot that is trapped in the filter is burnt off without intervention by the operator. The truck can continue to work without interruption.

\*Optional in Series 3s and 4s. Standard for Series 5s.



The EU operator directive "2002/44/EC Vibrations" governs the overall amount of 'human vibrations' to which an employee may be subjected each day at the workplace. As the operating company, you are solely responsible for compliance with this directive. However, we can be a strong partner in this area, providing you with diesel/LPG fork lift trucks optimally designed to minimise vibrations. All trucks are fitted with a cushioned operator module. Advantage: Increased productivity due to longer travel times without exceeding limits.



#### **Especially spacious cabs**

The cabs offer every operator maximum arm, leg and headroom – significantly above the competitor average.

#### **Unobstructed glass roof**

The unobstructed glass roof offers 100 percent upward visibility.

#### **Excellent stability and driving safety values**

The combination of high-mounted fully floating axle and extremely low centre of gravity ensures optimum load distribution, outstanding forward travel and uncompromising cornering stability.

#### **Freely selectable pedals**

Optional double pedal or car-type pedals: So you can accelerate as required.

#### **Freely switchable operating programs**

Five operating programs provide optimum performance for every application.

#### **Automatic parking brake**

If the operator takes their foot off the power on a ramp, the truck stops automatically without the operator having to apply the brake. The brake is applied as soon as the truck comes to a halt. When the truck starts up the brake is automatically released again and the truck starts moving again, sensitively and without rolling back.

**Very low noise generation, even at full power, due to the special sound design (noise level at the operator's ear)**



**TFG 320s**

75 dB(A)

**Competitor Ø**

78 dB(A)

The image shows the interior of a modern excavator cab. The view is from the operator's perspective, looking towards the front. The steering wheel is on the left side. The dashboard and control panel are in the center, featuring various buttons, switches, and a small display screen. The right side has a control lever and a seat. The floor is dark and textured. The large windows provide a clear view of the outside. The overall design is functional and ergonomic.

**Every operator sits, drives,  
steers, controls and works  
differently.**

**That's why we've included  
a number of great ideas.**



### **Steering column with steplessly adjustable height/tilt and memory function**

Entry and exit are even more comfortable: The steering column can be tilted forward simply by pulling on the steering wheel lever. To enter, simply pull up on the steering wheel. The memory function causes the steering column to lock in its previous setting.



### **Ample storage tray in the armrest**

The storage tray can optionally be fitted with a USB port. This makes it possible to charge an MP3 player or mobile phone easily and reliably, for example.



### **Numerous storage facilities**

Pens, mobile phones of any size, paperwork, bottles – there is a space for everything within easy reach.



### **Armrest features steplessly adjustable tilt**

The stepless single-point adjustment of the armrest in two axial directions ensures maximum comfort. The arm is relaxed at all times as it is supported by the armrest, enabling it to carry out all commands easily and intuitively. A fabric cover is optionally available.



### **Outstanding heating function**

The steplessly adjustable fan provides an all-round pleasant working environment and clear visibility in the event of wind or bad weather.

You can choose from three operating systems: DUO-PILOT, MULTI-PILOT or SOLO-PILOT. They all have one thing in common: the adjustable lever/axis assignment. They determine which function is assigned to which lever.



#### **DUO-PILOT**

DUO-PILOT offers precise and sensitive control of all truck functions with two control levers. The separate travel direction switch features an ergonomic gripping design for effortless activation.



#### **MULTI-PILOT**

MULTI-PILOT is based on the principle of a joystick. The functions are directly controlled by the movement of the MULTI-PILOT or via pushbuttons.

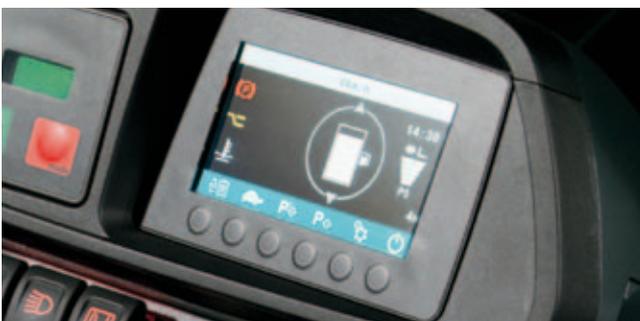


#### **SOLO-PILOT**

With SOLO-PILOT, the travel/lifting functions are controlled solely by the fingertips. No hand movements are required. The levers have the same functions as conventional single levers.

#### **Personally customisable operating options:**

- Double pedal or car-type pedals
- Three control lever variants
- Adjustable lever/axis assignment
- Five different operating/travel programs
- Individually assignable function keys



#### **Full colour display**

The high-resolution, high-contrast TFT display provides information about all selected settings at any time.



#### **Operator dialogue system**

The operator dialogue system provides detailed information about all important status and provides individually assignable function keys for activating and deactivating the assistance systems.





### **Clear view of the load**

The compact mast significantly extends the operator's field of vision, offering the best visibility available on the market. Important features contributing to the enhanced visibility include compact profile nesting and an optimised chain and hose guide as well as two viewing windows in the cross member.



Viewing windows in the cross member ensure a clear view of the fork tips.

# Do you have specific requests and requirements?

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

### **Access Control (optional)**

Access Control only releases the truck for operation when a valid access code is recognised and the 'seat occupied' and belt lock detection systems have been activated in turn.

### **Speed restriction with Drive Control (optional)**

Drive Control limits acceleration and maximum travel speed when cornering and automatically from a defined lift height. This increases safety when manoeuvring with a raised pallet, while still ensuring even more sensitive manoeuvring during the work cycle.

### **Work safety with Lift Control (optional)**

The Lift Control function (including Drive Control) reduces the mast tilt speed from an individually specified lift height. This significantly contributes to the safer handling of loads at greater lift heights. The operator is able to relax and track this movement via the tilt angle display.

### **Safety at all blind spots with the floor spot (optional)**

The floor spot projects a red dot on the floor about 5 m ahead of the truck. Especially at blind intersections or at the end of rack aisles, this alerts an approaching truck in time to respond.

### **Cabs for any kind of weather (optional)**

With a wide range of equipment options (with heater or air conditioning system, etc.) our cabs offer a comfortable solution for every season. And the modular design allows individual adjustments to be made to suit your applications.

### **Optimum visibility thanks to increased seat height (optional)**

The increased seat height ensures excellent visibility, even with high, bulky loads. For more safety and greater throughput.

### **Protection against contamination (optional)**

Irrespective of whether it is fragments of paper, polystyrene or packaging material, for example, we offer you the perfect protection against contamination of the motor compartment. This enables more time to be devoted to driving and stacking and less to cleaning.

### **Divided door (optional for Series 4s/5s)**

- Better ventilation without having to detach the complete door.
- Easier, faster entry and exit.

### **Optimum tyres and high ground clearance**

Our DFG/TFG can handle any floor conditions, partly because of the high ground clearance and also thanks to optimum traction with different tyres. We offer twin, pneumatic and super elastic tyres depending on the application. This significantly reduces the risk of sinking into soft ground. It also means more comfort for the operator because hard jolts are softened.

### **Individually tailored attachments (optional)**

We offer attachments for your sector-specific applications. All attachments are mounted and meticulously tested to ensure they provide maximum safety and reliability.



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TFG 550s



**Fast. Dynamic. Efficient.  
Hydrostatic drive.**



# Yes or no?

## Investment decisions are simple, but not always straightforward. We compile the facts that make it easier for you:

### **BestInvest**

Jungheinrich diesel/LPG fork lift trucks with hydrostatic drives reduce your long-term operating costs by up to 20 percent. With a wide range of technological and ergonomic advantages that reduce expenses making up the Total Cost of Operations (TCO) to minimum levels, from purchase to disposal. We call this promise BestInvest. It helps you transform your costs into profitable investments. So that you can make the best investment decision:

- Maximised throughput can translate into lowering staff costs by tens of thousands of euros annually.
- Minimised power consumption can save you thousands of euros annually in energy costs.
- Wear-free components can likewise save you thousands of euros annually in maintenance costs.
- A reliable investment with Jungheinrich means a reliable investment made in Germany. Made in the Jungheinrich factory in Moosburg, near Munich.

### **100 % customised vehicles**

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

### **The right racking for the right truck**

We can provide you with the complete solution for this: Integrated warehouse planning, where the racking and the trucks work 'hand in hand' as parts of a single system. From project planning through CAD design to handover. From modular racking systems through system platforms to high-bay racking. From consultancy through installation to service. A one-stop shop. Everything from Jungheinrich – your 'designer' for a complete intralogistics system.

### **In-house financial services**

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



Ext. Verantwortl.

Funktions

Kernkompetenz  
(200 Jahre)

Personal

Learning

+A

+B

Planung

Innovation

Produktion

### **Service with the manufacturer's expertise**

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

#### Advantages

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

### **The whole is greater than the sum of its parts**

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

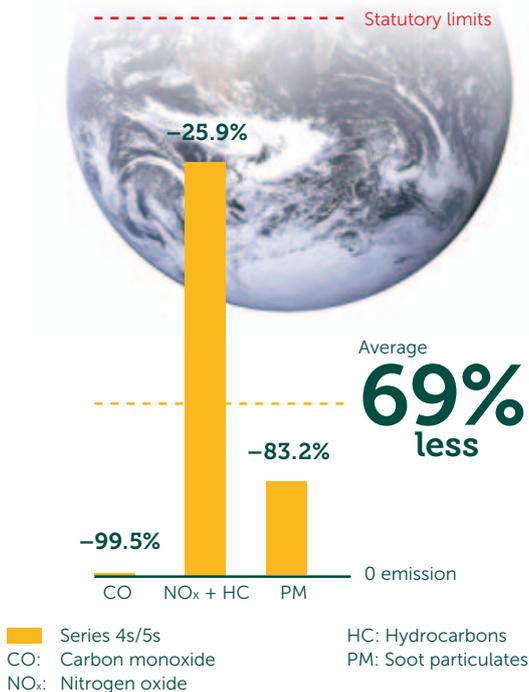




**JUNGHEINRICH**

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

**Truck emissions taking the DFG 4s/5s trucks as an example, compared to statutory limits**



**Double digit decrease in CO<sub>2</sub> emissions over ten years**

We have drastically reduced CO<sub>2</sub> emissions for our entire truck range over the last ten years, with a fall of more than 25 % for electric and diesel/LPG fork lift trucks and more than 35 % for vertical order pickers and narrow aisle/reach trucks. We have done this with a series of technological innovations which are currently setting standards for CO<sub>2</sub> emissions.

**Significantly reduced CO<sub>2</sub> emissions also mean significantly lower energy costs**

Our entire product cycle now features technological innovations for reducing CO<sub>2</sub> emissions, from manufacturing through usage to reconditioning. And our high-tech solutions are really setting standards in the usage phase which is where more than 80 % of all emissions occur. You can easily use this advantage to your benefit, immediately reducing your energy costs considerably while simultaneously achieving maximum throughput rates.  
[www.jungheinrich.com/oekobilanz](http://www.jungheinrich.com/oekobilanz)

**TÜV-certified product life-cycle assessment**

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





**JUNGHEINRICH**

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

 Jungheinrich trucks  
conform to the European  
Safety Requirements.

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