

Hydrostatic drive for excellent drive comfort and productivity

Low fuel consumption

Excellent stability during travel due to extremely low centre of gravity and high pivot steer axle

Driver assistance systems (optional)

Ergonomic and easily adjustable operators environment

Driver orientated workplace



DFG/TFG 316s/320s

Diesel and LPG counterbalanced trucks with hydrostatic drive (1,600/2,000 kg)

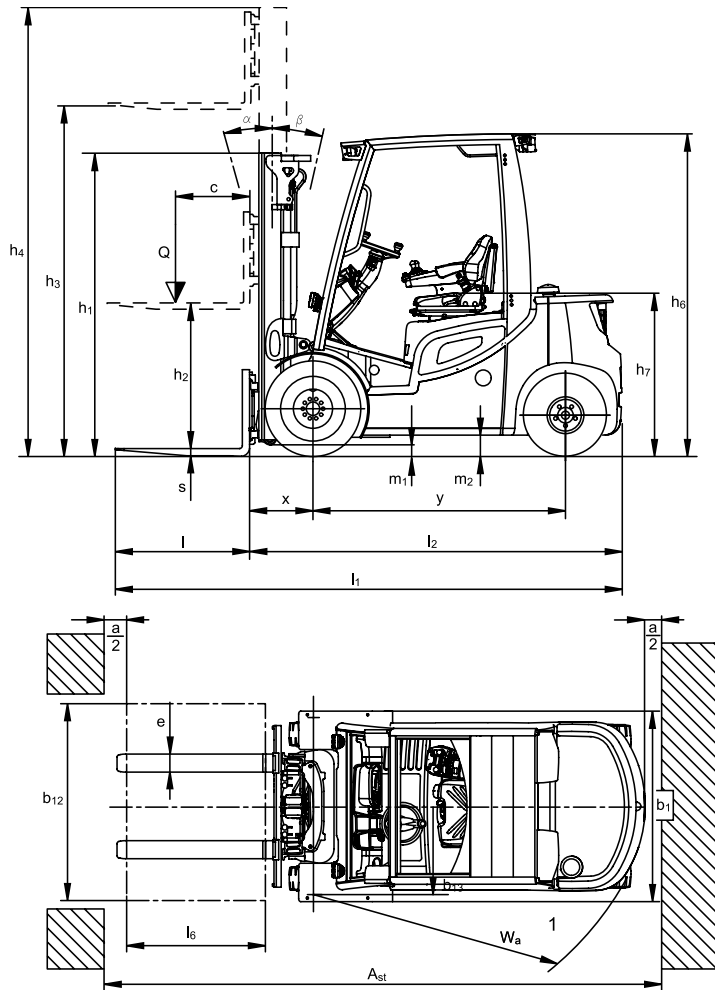
Our diesel and LPG fork lift trucks with hydrostatic drive offer outstanding throughput, particularly when reversing (e.g. during loading of HGVs). This is where their strengths truly come into play: Rapid acceleration, fast reversing and precise travel. With five operating programs, the performance characteristics can be optimally adapted to the requirements of numerous applications.

State-of-the-art engines from the automotive industry feature impressive electronic control units. They allow for precise operation and optimum productivity combined with low fuel consumption. All the engines are characterised by low emissions, falling significantly below the strict EU directives. A regulated 3-way catalytic converter for LPG fork lift trucks as well as soot filter systems for diesel fork lifts are available as options.

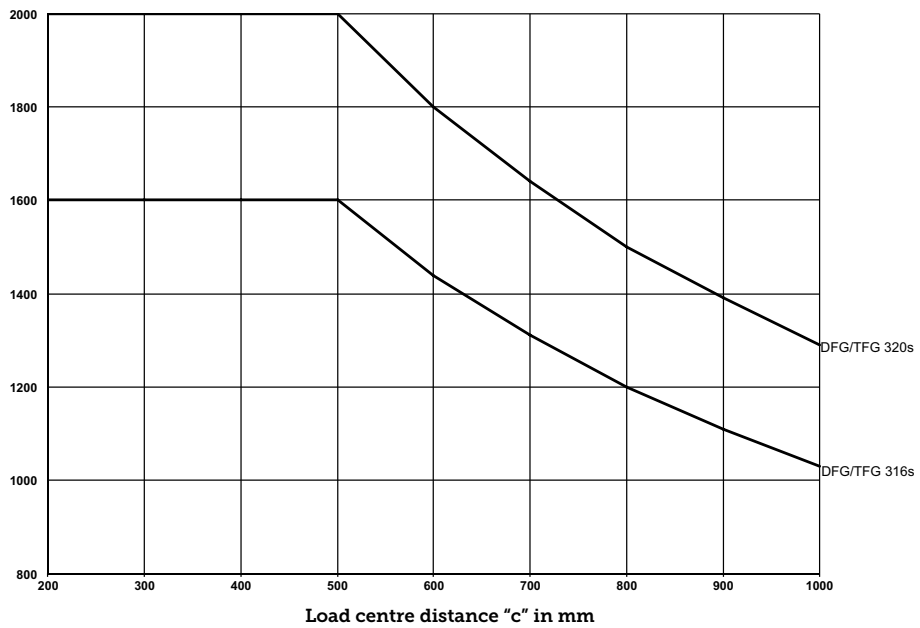
The generously dimensioned workstation is optimally designed with the operator in mind. The infinitely adjustable steering column with memory function and the integral armrest allows full adjustment to suit all operator sizes. The single-point adjustment via two adjustable axes enables the primary controls to be quickly and intuitively adjusted. This ensures safety, protects health and enables the operator to concentrate fully on their work whilst being in a relaxed & stress-free environment.

The laminated safety glass roof panel offers protection from the weather and falling items. The increased amount of light in the cab creates a pleasant working atmosphere contributing to faster and safer stacking and retrieval. These are the best requirements for ensuring maximum productivity throughout the shift.

DFG/TFG 316s/320s



Capacity (kg)



DFG/TFG 316s/320s

| Standard mast types DFG 316s/DFG 320s/TFG 316s/TFG 320s | | | | | | | | |
|---|---------------------------|--|---------------------|--------------------------------|---------------------|---|---------------------|---|
| | Lift h_3 (mm) | Lowered mast height h_1 (mm) | | Free lift h_2 (mm) | | Extended mast height h_4 (mm) | | Mast tilt forward / back α/β (°) |
| | | DFG 316s / TFG 316s | DFG 320s / TFG 320s | DFG 316s / TFG 316s | DFG 320s / TFG 320s | DFG 316s / TFG 316s | DFG 320s / TFG 320s | |
| | | | | | | | | |
| Duplex ZT | 2900 | 2005 | 2012 | 150 | 150 | 3479 | 3501 | 7/7 |
| | 3100 | 2105 | 2112 | 150 | 150 | 3679 | 3701 | 7/7 |
| | 3300 | 2205 | 2212 | 150 | 150 | 3879 | 3901 | 7/7 |
| | 3500 | 2305 | 2312 | 150 | 150 | 4079 | 4101 | 7/6 |
| | 3700 | 2405 | 2412 | 150 | 150 | 4279 | 4301 | 7/6 |
| | 4000 | 2505 | 2512 | 150 | 150 | 4579 | 4601 | 7/6 |
| | 4300 | 2705 | 2712 | 150 | 150 | 4879 | 4901 | 7/6 |
| | 4500 | 2805 | 2812 | 150 | 150 | 5079 | 5101 | 7/6 |
| Duplex ZZ | 3100 | 2060 | 2067 | 1474 | 1432 | 3679 | 3731 | 7/7 |
| | 3300 | 2160 | 2167 | 1574 | 1532 | 3879 | 3931 | 7/7 |
| | 3500 | 2260 | 2267 | 1674 | 1632 | 4079 | 4131 | 7/6 |
| | 3700 | 2360 | 2367 | 1774 | 1732 | 4279 | 4331 | 7/6 |
| | 4000 | 2510 | 2517 | 1924 | 1882 | 4579 | 4631 | 7/6 |
| Triplex DZ | 4400 | 2020 | 2027 | 1434 | 1397 | 4979 | 5031 | 7/5 |
| | 4640 | 2100 | 2107 | 1514 | 1477 | 5219 | 5271 | 7/5 |
| | 4700 | 2120 | 2127 | 1530 | 1485 | 5279 | 5331 | 7/5 |
| | 4800 | 2160 | 2167 | 1570 | 1525 | 5379 | 5431 | 7/5 |
| | 5000 | 2230 | 2237 | 1644 | 1607 | 5579 | 5631 | 7/5 |
| | 5500 | 2410 | 2417 | 1824 | 1787 | 6079 | 6131 | 7/5 |
| | 6000 | 2580 | 2587 | 1994 | 1962 | 6579 | 6631 | 7/5 |
| | 6500 | 2760 | 2767 | 2174 | 2140 | 7079 | 7131 | 7/5 |
| | 7000 | 2930 | 2937 | 2344 | 2307 | 7579 | 7631 | - |
| | 7500 | 3100 | 3107 | 2514 | 2477 | 8079 | 8131 | - |

Technical data in line with VDI 2198

| | | | Jungheinrich | | | |
|-------------------|---|--|---|-------------------------|-------------------|-------------------|
| | | | DFG 316s | DFG 320s | | |
| Identification | 1.1 | Manufacturer (short form) | Jungheinrich | | | |
| | 1.2 | Model | | | | |
| | 1.3 | Drive | Diesel | | | |
| | 1.4 | Manual, pedestrian, stand-on, seated, order picker operation | seat | | | |
| | 1.5 | Load capacity/rated load | Q | t | 1.6 | 2 |
| | 1.6 | Load centre distance | c | mm | 500 | |
| | 1.8 | Load distance | x | mm | 409 ¹⁾ | 416 ¹⁾ |
| | 1.9 | Wheelbase | y | mm | 1550 | |
| | Weights | 2.1 | Service weight | | | 2800 |
| 2.2 | | Axle load, w. load, front / rear | | | 3870 / 520 | 4500 / 590 |
| 2.3 | | Axle load, w.o. load, front / rear | | | 1340 / 1460 | 1350 / 1750 |
| Wheels / chassis | 3.1 | Tyres | | | SE | |
| | 3.2 | Tyre size, at front | | | 6.50-10 | |
| | 3.3 | Tyre size, at rear | | | 18x7-8 | |
| | 3.5 | Wheels, number front/rear (x = driven wheels) | | | 2x/2 | |
| | 3.6 | Track width, front | b ₁₀ | mm | 930 | |
| | 3.7 | Track width, rear | b ₁₁ | mm | 870 | |
| | Basic dimensions | 4.1 | Tilt of mast/fork carriage forward/backward | α/β ° | | 7/7 |
| 4.2 | | Mast height (lowered) | h ₁ | mm | 2205 | 2212 |
| 4.3 | | Free lift | h ₂ | mm | 150 | |
| 4.4 | | Lift | h ₃ | mm | 3300 | |
| 4.5 | | Extended mast height | h ₄ | mm | 3879 | 3901 |
| 4.7 | | Height of overhead guard | h ₆ | mm | 2145 | |
| 4.8 | | Seat height/stand height | h ₇ | mm | 1048 | |
| 4.12 | | Coupling height | h ₁₀ | mm | 380 | |
| 4.19 | | Overall length | l ₁ | mm | 3464 | 3491 |
| 4.20 | | Length incl. back of forks | l ₂ | mm | 2314 | 2341 |
| 4.21 | | Total width | b ₁ /b ₂ | mm | 1110 | |
| 4.22 | | Fork dimensions | s/e/l | mm | 40 / 100 / 1150 | |
| 4.23 | | Fork carriage ISO 2328, class/type A, B | | | 2A | |
| 4.24 | | Fork carriage width | b ₃ | mm | 980 | |
| 4.31 | | Floor clearance with load under mast | m ₁ | mm | 100 | 107 |
| 4.32 | | Floor clearance centre wheelbase | m ₂ | mm | 120 | |
| 4.33 | | Aisle width for pallets 1000 x 1200 sideways | Ast | mm | 3646 | 3664 |
| 4.34 | Aisle width for pallets 800 x 1200 lengthways | Ast | mm | 3846 | 3864 | |
| 4.35 | Turning radius | W _a | mm | 2037 | 2055 | |
| 4.36 | Smallest pivot point distance | b ₁₃ | mm | 545 | | |
| Performance data | 5.1 | Travel speed, w. / w.o. load | km/h | | 19.5 / 19.5 | |
| | 5.2 | Lift speed, w. / w.o. load | m/s | | 0.6 / 0.62 | |
| | 5.3 | Lower speed, w. / w.o. load | m/s | | 0.54 / 0.57 | |
| | 5.5 | Drawbar pull w. / w.o. load | N | | 12100 | 11900 |
| | 5.7 | Gradeability laden/unladen | % | | 26 | 23 |
| | 5.9.2 | Acceleration laden/unladen to 15 m | S | | 4.8 / 4.4 | 5.1 / 4.6 |
| | 5.10 | Service brake | | | hydrostatic | |
| 5.11 | Parking brake | | | Automatic parking brake | | |
| Combustion engine | 7.1 | Engine manufacturer / type | | | VW / BXT | |
| | 7.2 | Engine output according to ISO 1585 | kW | | 29 | |
| | 7.3 | Rated revolutions per minute | /min | | 2500 | |
| | 7.4 | No. of cylinders | | | 4 | |
| | 7.4.1 | Cubic capacity | cm ³ | | 1896 | |
| | 7.5 | Fuel consumption acc. to VDI cycle | l/h | | 2.3 | 2.5 |
| | Misc. | 8.1 | Type of drive control | | | hydrostatic |
| 8.2 | | Working pressure for attachments | bar | | 160 | |
| 8.3 | | Oil flow for attachments | l/min | | 30 | |
| 8.4 | | Sound pressure level at operator's ear according to EN 12053 | dB (A) | | 77 | |
| 8.5 | | Trailer coupling, model/type DIN | | | DIN 15170 Type H | |

¹⁾ Integrated Sideshifter +27,5 mm

Technical data in line with VDI 2198

| | | | | Jungheinrich | | | |
|-------------------|---|--|---|-----------------|-------------------|-------------------|-----------|
| | | | | TFG 316s | TFG 320s | | |
| Identification | 1.1 | Manufacturer (short form) | | Jungheinrich | | | |
| | 1.2 | Model | | | | | |
| | 1.3 | Drive | | LPG | | | |
| | 1.4 | Manual, pedestrian, stand-on, seated, order picker operation | | seat | | | |
| | 1.5 | Load capacity/rated load | Q | t | 1.6 | 2 | |
| | 1.6 | Load centre distance | c | mm | 500 | | |
| | 1.8 | Load distance | x | mm | 409 ¹⁾ | 416 ¹⁾ | |
| | 1.9 | Wheelbase | y | mm | 1550 | | |
| | Weights | 2.1 | Service weight | | 2800 | 3100 | |
| 2.2 | | Axle load, w. load, front / rear | | 3860 / 530 | 4490 / 600 | | |
| 2.3 | | Axle load, w.o. load, front / rear | | 1330 / 1470 | 1340 / 1760 | | |
| Wheels / chassis | 3.1 | Tyres | | SE | | | |
| | 3.2 | Tyre size, at front | | 6.50-10 | | | |
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| | Basic dimensions | 4.1 | Tilt of mast/fork carriage forward/backward | | α/β ° | | |
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| 4.12 | | Coupling height | | 380 | | | |
| 4.19 | | Overall length | l ₁ | mm | 3464 | 3491 | |
| 4.20 | | Length incl. back of forks | l ₂ | mm | 2314 | 2341 | |
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| | 5.3 | Lower speed, w. / w.o. load | | 0.54 / 0.57 | | | |
| | 5.5 | Drawbar pull w. / w.o. load | N | | 12100 | 12400 | |
| | 5.7 | Gradeability laden/unladen | | % | | 27 | 26 |
| | 5.9.2 | Acceleration laden/unladen to 15 m | | S | | 5 / 4.6 | 5.1 / 4.7 |
| | 5.10 | Service brake | | hydrostatic | | | |
| 5.11 | Parking brake | | Automatic parking brake | | | | |
| Combustion engine | 7.1 | Engine manufacturer / type | | VW / BEF | | | |
| | 7.2 | Engine output according to ISO 1585 | kW | | 31 | | |
| | 7.3 | Rated revolutions per minute | | /min | | 2500 | |
| | 7.4 | No. of cylinders | | | | 4 | |
| | 7.4.1 | Cubic capacity | | cm ³ | | 1980 | |
| | 7.5.1 | Fuel consumption acc. to VDI cycle | kg/h | | 2.1 | 2.3 | |
| Misc. | 8.1 | Type of drive control | | hydrostatic | | | |
| | 8.2 | Working pressure for attachments | | bar | | 160 | |
| | 8.3 | Oil flow for attachments | | l/min | | 30 | |
| | 8.4 | Sound pressure level at operator's ear according to EN 12053 | | dB (A) | | 75 | |
| | 8.5 | Trailer coupling, model/type DIN | | | | DIN 15170 Type H | |

¹⁾ Integrated Sideshifter +27,5 mm

DFG/TFG 316s/320s



Operator-oriented workstation

The ergonomics of the generously configured operator's workstation guarantee relaxed, fatigue-free work:

- Comfortable and safe access and exit thanks to a large entry step easily visible from above.
- Height and rake adjustable, slim steering column with memory function for maximum knee and legroom: The steering column can be tilted forward simply by pulling on the steering wheel lever.
- Excellent all-round visibility thanks to special roof and panel design as well as unobstructed roof window made from laminated safety glass.
- Clear view of the load thanks to optimised chain and hose configuration.
- Compact nested profile package with outstanding visibility.
- Particularly comfortable operation due to the integration of all controls into the armrest which moves with the operator.
- Operator-oriented storage concept for intuitive operation.
- High-resolution, contrast-rich colour TFT display with self-explanatory symbols.
- USB power supply port for e.g. MP3 players.
- Limited vibrations experienced by the operator as the cab is not directly connected to the frame (floating cab).

Ergonomic and easily adjustable operator's environment

- A choice of five parametrised travel programs.
- Stepless single-point adjustment of the armrest in two axis directions.
- Large armrest with adjustable tilt, available in different upholstery fabrics and with a spacious storage compartment.
- A choice of three different controls.
- Single or double pedal operation.
- Adjustable lever and axis assignment of the controls.

Benefit from the advantages



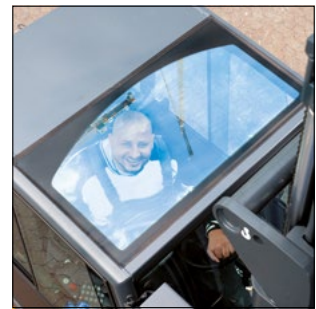
Maximum throughput



Workstation is comfortable and helps to maximise productivity



VW engines with low energy consumption



Outstanding all-round visibility

Performance and drive characteristics

A hydrostatic drive gives you the best energy efficiency coupled with maximum throughput – particularly when reversing:

- Stepless power transmission and high starting torques.
- Electronic control for precise adjustment of drive and hydraulic functions.
- The five electronically selectable operating/travel programs ensure optimum performance parameters for every application.
- Automatic increase in rpm during lifting and lowering.
- Very precise control of travel speed – the truck is very responsive.
- Low maintenance costs due to direct drive without wearing parts, such as clutch, differential and gears.
- Hydrostatic steering ensures steering is effortless and very precise.

Safety

Outstanding travel dynamics and performance levels require a high level of safety. Our hydrostatic drive trucks already offer you a comprehensive safety package as standard:

- Deactivation of the hydraulic functions if seat is unoccupied.

- No uncontrolled roll-back on ramps or inclines due to the automatic parking brake, even with the engine switched off.
- Excellent stability due to extremely low inherent centre of gravity and high pivot steer axle in the newest generation.
- Damping on mast and tilt cylinders for increased handling safety.

A range of additional operator assistance options provides even more safety for the operator, truck and load:

- Access Control: The access control system allows operation of the fork lift only if the 'seat occupied' and belt lock detection systems have been activated in turn.
- Drive Control: The speed control which automatically reduces the speed of travel when cornering and from a defined lift height.
- Lift Control (includes Drive Control): Automatically reduces the tilt speed of the mast from a defined lift height. Tilt angle shown on separate display.

Hydraulics

The high-performance filter system ensures cleaner oil and a long service life for all components:

- Full-flow hydraulic oil filtration with combined suction and return filtering for maximum oil purity.
- Hydraulic tank integrated in frame.
- Ventilation of hydraulic tank via filter.
- Pressure relief valves protect against excess pressure and overloading.

Brakes

The hydrostatic drive allows completely wearfree braking:

- Frequent brake pedal operation is no longer necessary.
- Parking brake: Sprung-loaded laminated oil immersed parking brake as a maintenance-free, enclosed system.

Intelligent controls and electronics

- Software and hardware for controls developed and produced in-house.
- Sensitive adjustment of hydraulic functions via electromagnetic valves.
- Splash-proof electronic drive and hydraulic controls in CAN-Bus design.

Engines

- State-of-the-art engines with performance figures falling far within the strict statutory limit values.
- Powerful yet low-consumption engines.

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

Jungheinrich fork lift trucks meet European safety requirements.



JUNGHEINRICH
Machines. Ideas. Solutions.