

Hydrostatic drive for excellent drive comfort and productivity

Low fuel consumption

Generously designed operator workplace

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

Driver assistance systems (optional)



Illustration with optional equipment

DFG/TFG 316s–320s

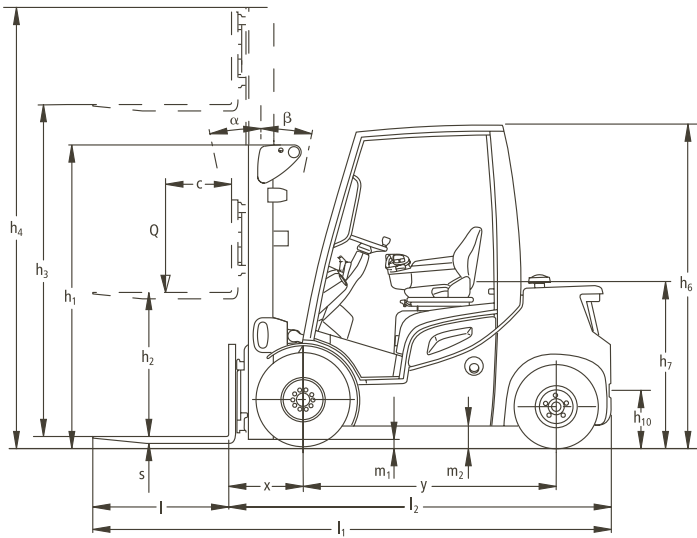
Diesel and LPG counterbalanced trucks with hydrostatic drive (1600, 2000 kg)

Jungheinrich Diesel and LPG counterbalanced trucks with hydrostatic drive give a high handling efficiency, particularly in shuttle operations (e.g. trailer and loading bay operations). The power of this drive technology is demonstrated to full advantage: high acceleration, rapid direction changes and precise driving characteristics. With 5 operating modes, the performance characteristics can be adapted to the requirements of numerous varied applications.

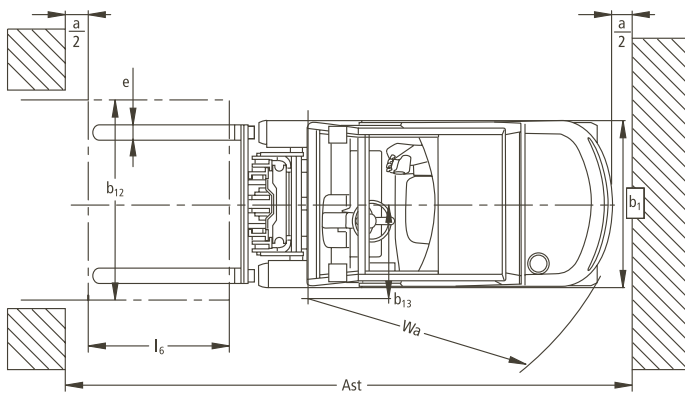
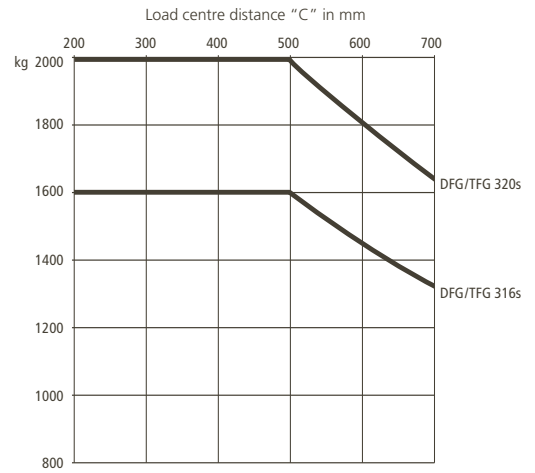
State-of-the-art engines from the automotive industry facilitate precise operation and optimum productivity combined with low fuel consumption by means of their electronic control systems. All engines have low exhaust emission and comply with at least the current EU regulations. A regulated 3-way catalyser for LPG as well as soot filter systems for Diesel trucks are optionally available.

The workplace is optimally designed with the operator in mind. It provides safety, protects the operator's health and ensures relaxed and concentrated operation – the best prerequisite for high productivity throughout the shift.

DFG/TFG 316s–320s



Capacity



Mast table DFG / TFG 316s–320s					
Designation	Lift height h_3 mm	Free lift h_2 mm	Closed height h_1 mm	Extended height h_4 mm	Tilt forward/backward α/β (°)
Two-stage mast ZT	2900	150	1985	3520	7/7
	3100	150	2085	3720	7/7
	3300	150	2185	3920	7/7
	3600	150	2335	4220	7/6
	3800	150	2435	4420	7/6
	4000	150	2535	4620	7/6
	4500	150	2835	5120	7/6
	5000	150	3085	5620	7/5
Two-stage mast ZZ	2900	1290	1940	3550	7/7
	3100	1390	2040	3750	7/7
	3300	1490	2140	3950	7/7
	3600	1640	2290	4250	7/6
	3800	1740	2390	4450	7/6
	4000	1840	2490	4650	7/6
Three-stage mast DZ	4200	1290	1940	4850	7/5
	4350	1340	1990	5000	7/5
	4500	1390	2040	5150	7/5
	4800	1490	2140	5450	7/5
	5000	1565	2215	5650	7/5
	5500	1740	2390	6150	7/5
	6000	1940	2590	6650	7/5
	6500	2190	2840	7150	7/5

Technical data in line with VDI 2198 as at: 10/2009

Identification	1.1	Manufacturer (abbreviation)	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	1.1	
	1.2	Manufacturer's type designation	DFG 316s	TFG 316s	DFG 320s	TFG 320s	1.2	
	1.3	Drive	diesel	LPG	diesel	LPG	1.3	
	1.4	Operator type	seat	seat	seat	seat	1.4	
	1.5	Load capacity/rated load	Q (t)	1.6	1.6	2	2	1.5
	1.6	Load centre distance	c (mm)	500	500	500	500	1.6
	1.8	Load distance (Centre of load axle to fork face)	x (mm)	398 ¹⁾	398 ¹⁾	398 ¹⁾	398 ¹⁾	1.8
	1.9	Wheelbase	y (mm)	1550	1550	1550	1550	1.9
	Weights	2.1	Service weight	kg	2800	2800	3100	3100
2.2		Axle loading, laden front/rear	kg	3870/520	3860/530	4500/590	4490/600	2.2
2.3		Axle loading, unladen front/rear	kg	1340/1460	1330/1470	1350/1750	1340/1760	2.3
Wheels, Chassis	3.1	Tyres	SE (L)	SE (L)	SE (L)	SE (L)	3.1	
	3.2	Tyre size, front	6.50-10 (14 PR)	6.50-10 (14 PR)	6.50-10 (14 PR)	6.50-10 (14 PR)	3.2	
	3.3	Tyre size, rear	18x7-8 (14 PR)	18x7-8 (14 PR)	18x7-8 (14 PR)	18x7-8 (14 PR)	3.3	
	3.5	Wheels, number front rear (x = driven wheels)	2x/2	2x/2	2x/2	2x/2	3.5	
	3.6	Track width, front	b ₁₀ (mm)	920	920	920	920	3.6
	3.7	Track width, rear	b ₁₁ (mm)	870	870	870	870	3.7
	Basic Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	7/7	7/7	7/7	7/7
4.2		Closed mast height	h ₁ (mm)	2185	2185	2185	2185	4.2
4.3		Free lift	h ₂ (mm)	150	150	150	150	4.3
4.4		Lift (standard mast)	h ₃ (mm)	3300	3300	3300	3300	4.4
4.5		Height, mast extended	h ₄ (mm)	3920	3920	3920	3920	4.5
4.7		Height of overhead guard (cabin)	h ₅ (mm)	2145	2145	2145	2145	4.7
4.8		Seat height/stand height	h ₇ (mm)	1048	1048	1048	1048	4.8
4.12		Coupling height	h ₁₀ (mm)	380	380	380	380	4.12
4.19		Overall length	l ₁ (mm)	3453	3453	3473	3473	4.19
4.20		Length to face of forks	l ₂ (mm)	2303	2303	2323	2323	4.20
4.21		Overall width	b ₁ /b ₂ (mm)	1100/-	1100/-	1100/-	1100/-	4.21
4.22		Fork dimensions	s/e/l (mm)	40/100/1150	40/100/1150	40/100/1150	40/100/1150	4.22
4.23		Fork carriage ISO 2328, class/type A, B		IIA	IIA	IIA	IIA	4.23
4.24		Fork-carriage width	b ₃ (mm)	980	980	980	980	4.24
4.31		Ground clearance, laden, below mast	m ₁ (mm)	120	120	120	120	4.31
4.32		Ground clearance, centre of wheelbase	m ₂ (mm)	120	120	120	120	4.32
4.33	Aisle width for pallets 1000x1200 crossways	Ast (mm)	3635	3635	3653	3653	4.33	
4.34	Aisle width for pallets 800x1200 lengthways	Ast (mm)	3835	3835	3853	3853	4.34	
4.35	Turning radius	Wa (mm)	2037	2037	2055	2055	4.35	
4.36	Internal turning radius	b ₁₃ (mm)	545	545	545	545	4.36	
Performance Data	5.1	Travel speed, laden/unladen	km/h	19.5/19.5	19.5/19.5	19.5/19.5	19.5/19.5	5.1
	5.2	Lift speed, laden/unladen	m/s	0.6/0.62	0.6/0.62	0.6/0.62	0.6/0.62	5.2
	5.3	Lowering speed, laden/unladen	m/s	0.54/0.57	0.54/0.57	0.54/0.57	0.54/0.57	5.3
	5.5	Drawbar pull, laden/unladen	N	12100	12100	11900	12400	5.5
	5.7	Gradeability, laden/unladen	%	26	27	23	26	5.7
	5.9	Acceleration time, laden/unladen 10 m	s	4.8/4.4	5.0/4.6	5.1/4.6	5.1/4.7	5.9
	5.10	Service brake		hydrostatic	hydrostatic	hydrostatic	hydrostatic	5.10
Combustion Engine	7.1	Engine manufacturer/type		VW/BXT	VW/BEF	VW/BXT	VW/BEF	7.1
	7.2	Engine power acc. to ISO 1585	kW	29	31	29	31	7.2
	7.3	Rated speed	min ⁻¹	2500	2500	2500	2500	7.3
	7.4	No. of cylinders/displacement	anz/cm ³	4/1896	4/1980	4/1896	4/1980	7.4
	7.5	Fuel consumption acc. to VDI cycle	l/h	2.3		2.6		7.5
		Fuel consumption acc. to VDI cycle	kg/h		2.2		2.4	
Others	8.1	Type of drive control		hydrostatic	hydrostatic	hydrostatic	hydrostatic	8.1
	8.2	Operating pressure for attachments	bar	160	160	160	160	8.2
	8.3	Oil volume for attachments	l/min	30	30	30	30	8.3
	8.4	Sound level at the driver's ear according to EN 12 053	dB(A)	77	75	77	75	8.4
	8.5	Towing coupling, type DIN		DIN 15170 type H	DIN 15170 type H	DIN 15170 type H	DIN 15170 type H	8.5

1) + 25 mm for DZ mast

Make use of the advantages

Ergonomic operator workplace

Comfortable and helping maximise productivity with exemplary ergonomics:

- Easy and safe access due to a large step easily visible from above.
- Floating Cab: vibration isolation with damped power train mountings and operator workplace module.
- Height and rake adjustable, slim steering column with memory function.
- Easy entry to the cab: the steering column tilts forward by means of a simple pull on the memory function lever.
- Excellent all-round visibility due to special roof and scuttle design.
- SOLO-PILOT, Comfort Display and operating console are integrated into the right armrest and are particularly easy to operate and read. The armrest is both vertically and horizontally adjustable.
- Comfortable working environment in any weather due to comfort cabs in various designs (optional).



Comfortable and productivity inspiring workplace

Assistance systems

The new Hydrostatic already offers an extensive safety package as standard:

- Deactivation of 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.

A range of additional options provide even more safety for the operator, the forklift and the load:

- Access Control: The access control system allows operation of the forklift only if "seat occupied" and "safety belt locked" recognition are activated in a defined sequence.
- Drive Control: Automatic travel speed reduction when cornering (analogue to Jungheinrich Curve Control). Additional travel speed reduction occurs with lift heights in excess of approx. 1500 mm.
- Lift Control (includes "Drive Control"): Automatic mast tilt speed reduction occurs with lift heights in excess of approx. 1500 mm. Tilt angle is displayed via an individual display unit.

Handling efficiency and drive characteristics

Key advantages of hydrostatic drive:

- Electronic control for precise adjustment of drive and hydraulic functions.
- Optimum handling performance particularly in shuttle operation.
- Stepless power transmission and high starting torques.
- 5 electronically selectable operating modes ensure optimum performance parameters for every application.
- Automatic engine speed increase during lifting and lowering.
- Very precise control of travel speed.
- Optional double pedal operation.
- Low maintenance costs due to direct drive without wearing parts, such as clutch, differential and gears.

Intelligent electronics

- Splash-proof electronic controllers (IP 64) connected to the CAN-Bus system for drive and hydraulic functions.

- 74 Ah 12 V battery/90 A 3-phase AC generator (140 A optional).
- Electronically controlled motors.
- TFG with maintenance-free electronic ignition system.
- Sensitive adjustment of hydraulic functions via electromagnetic controlled valves.

Tyres

Superelastic tyres as standard; choices of non-marking SE and pneumatic tyres also available.

Brakes

The hydrostatic drive facilitates completely wear-free braking:

- Frequent brake pedal operation is no longer necessary.
- Spring-loaded disc parking brake in oil bath as a maintenance-free, enclosed system.
- Safety on ramps: The parking brake is activated automatically when the truck stands still or the engine is switched off.

Hydraulics

The high performance filter system ensures clean hydraulic oil and a long service life of all components.

- Combined suction and return flow filter system for optimum cold running.
- Hydraulic tank integrated in chassis.
- Ventilation of hydraulic tank via the filter.
- Pressure relief valves protect against excess pressure and overloading.

Mast

All mast components are designed for optimum visibility, maximum stability and long service life:

- Slender mast profiles and lift cylinders positioned at the rear for maximum visibility.
- End cushioning on mast and tilt cylinders for increased handling safety.

Additional equipment

Various options and attachments are available to suit different application requirements.

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