

**Large capacity industrial engines with high torque and a long service life**

**Hydrostatic drive unit for fast acceleration and direction changes**

**Isolated, cushion mounted cab**

**Oil immersed multi-disk parking brake with automatic operation**

**Comfortable operator's cab featuring exemplary ergonomics**



## **DFG/TFG 540s–550s**

### **Diesel and gas forklifts with hydrostatic drive units (4000, 4500, 5000 kg)**

Jungheinrich diesel and gas forklift trucks with hydrostatic drive units have an incredible handling capacity. Their strengths come particularly to the fore in applications that require lots of direction changes, such as any continual loading and unloading processes. These strengths include dynamic acceleration, fast reversing and precision control. The driving characteristics can be changed easily via the service laptop.

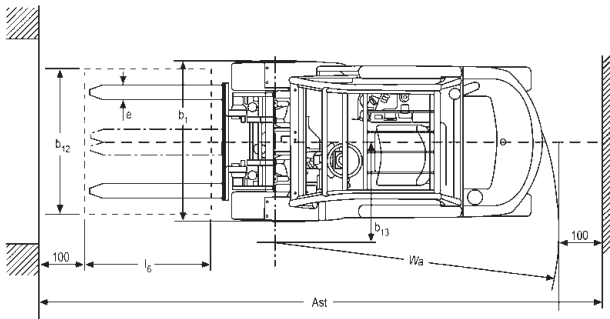
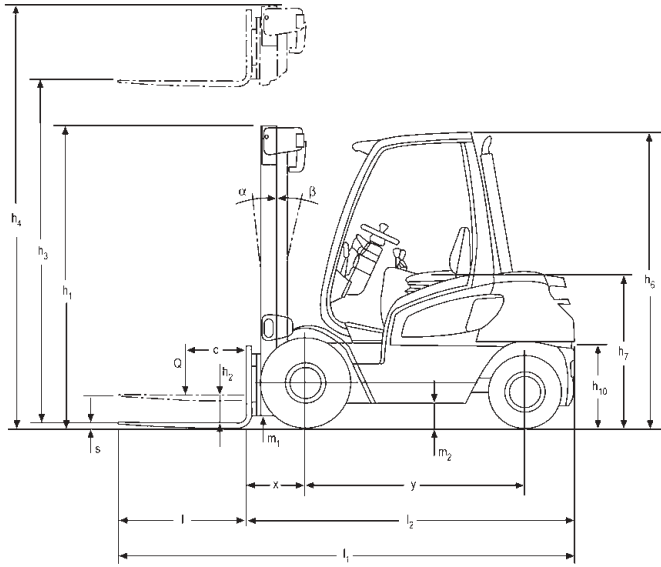
Large capacity industrial engines generate high torque even at low speeds. The ben-

efits of this include lower fuel consumption and minimised noise development. These robust engines are specially designed for use in forklift trucks. That ensures high reliability and a long service life even for tough applications.

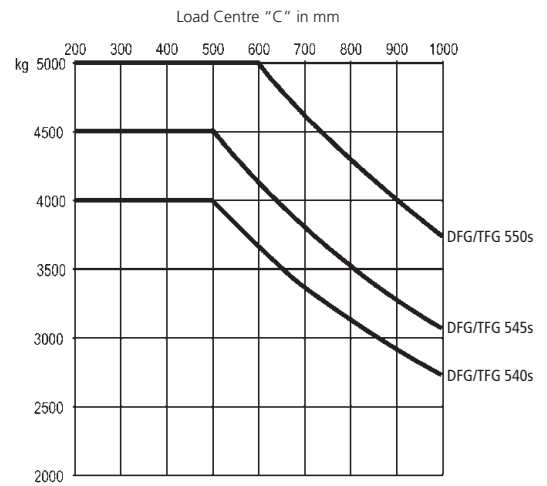
All the engines feature low emissions and comply with the future EU Directives. The gas versions are fitted as standard with a catalytic converter. A closed-loop 3-way catalytic converter (TFG) and various particulate filter systems (DFG) are available as options.

The operator's cab has an ergonomic layout and is designed around the operator. This ensures safety, protects health and enables the operator to concentrate fully on his work whilst being in a relaxed & stress free environment. Overall this ensures maximum productivity for arduous shifts.

# DFG/TFG 540s–550s



**Capacity Diagram**



Designation	Mast table DFG/TFG 540s–550s								Capacity table		
	Lift		Free lift		Closed mast height h <sub>1</sub> mm	Max. height		Tilt forward/backward α/β (°)	without sideshift, single solid tyres		
	h <sub>3</sub> mm		h <sub>2</sub> mm			h <sub>4</sub> mm			c = 500 mm kg		c = 600 mm
	DFG/TFG 540s–545s	DFG/TFG 550s	DFG/TFG 540s–545s	DFG/TFG 550s	DFG/TFG 540s–545s	DFG/TFG 550s	DFG/TFG 540s	DFG/TFG 545s	DFG/TFG 550s		
Two-stage ZT	2750	2750	150	150	2165	3465	3613	7/11	4000	4500	5000
	3000	3000	150	150	2290	3715	3863	7/11	4000	4500	5000
	3500	3500	150	150	2540	4215	4363	7/6	4000	4500	5000
	4000	4000	150	150	2790	4715	4863	7/11	4000	4500	5000
	4500	4500	150	150	3040	5215	5363	7/11	4000	4500	5000
	5000	5000	150	150	3290	5715	5863	7/6		4500	5000
	5500	5500	150	150	3540	6215	6363	7/6		4500	5000
	6000	6000	150	150	3790	6715	6863	7/6		4200	4900
6500	6500	150	150	4040	7215	7363	7/6			4700	
Two-stage ZZ	2775	2725	1375	1225	2140	3540	3640	7/11	4000	4500	5000
	3025	2975	1500	1350	2265	3790	3890	7/11	4000	4500	5000
	3525	3475	1750	1600	2515	4290	4390	7/11	4000	4500	5000
	4025	3975	2000	1850	2765	4790	4890	7/11	4000	4500	5000
	4525	4475	2250	2100	3015	5290	5390	7/11	4000	4500	5000
	5025	4975	2500	2350	3265	5790	5890	7/6		4500	5000
5525	5475	2750	2600	3515	6290	6390	7/6			5000	
Three-stage DZ	4150	4050	1375	1225	2140	4915	4965	7/11	4000	4500	5000
	4525	4425	1500	1350	2265	5290	5340	7/11	4000	4500	5000
	5275	5175	1750	1600	2515	6040	6090	7/6	4000	4500	5000
	5650	5550	1875	1725	2640	6415	6465	7/6	3900	4300	4670
	6025	5925	2000	1850	2765	6790	6840	7/6	3850		4350
	6775	6675	2250	2100	3015	7540	7590	7/6			3380

# Technical Data in line with VDI 2198 as at: 09/2005

		Jungheinrich		Jungheinrich		Jungheinrich		Jungheinrich		
		DFG 540s	TFG 540s	DFG 545s	TFG 545s	DFG 550s	TFG 550s	DFG 550s	TFG 550s	
<b>Identification</b>	1.1	Manufacturer (abbreviation)		Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	1.1
	1.2	Manufacturer's type designation		DFG 540s	TFG 540s	DFG 545s	TFG 545s	DFG 550s	TFG 550s	1.2
	1.3	Drive (electric – battery or mains, diesel, petrol, fuel gas, manual)		Diesel	fuel gas	Diesel	fuel gas	Diesel	fuel gas	1.3
	1.4	Type of operation (hand, pedestrian, standing, seated, order picker)		seated		seated		seated		1.4
	1.5	Load capacity/rated load Q (t)		4		4.5		5		1.5
	1.6	Load centre distance c (mm)		500		500		600		1.6
	1.8	Load distance, centre of drive axle to fork x (mm)		564 <sup>1)</sup>		564 <sup>1)</sup>		579 <sup>2)</sup>		1.8
	1.9	Wheelbase y (mm)		1985		1985		1985		1.9
	<b>Weights</b>	2.1	Service weight kg		6279		6669		7434	
2.2		Axle loading, laden front/rear kg		8954/1325		9869/1300		10762/1673		2.2
2.3		Axle loading, unladen front/rear kg		2810/3469		2937/3732		2795/4639		2.3
<b>Wheels, Chassis</b>	3.1	Tyres (solid rubber, SE = superelastic, pneumatic)		SE/SE		SE/SE		SE/SE		3.1
	3.2	Tyre size, front		8.25-15		8.25-15		300-15		3.2
	3.3	Tyre size, rear		28x9-15		28x9-15		28x9-15		3.3
	3.5	Wheels, number front/rear (x = driven wheels)		2x/2		2x/2		2x/2		3.5
	3.6	Track width, front b <sub>10</sub> (mm)		1170		1170		1170		3.6
	3.7	Track width, rear b <sub>11</sub> (mm)		1150		1150		1150		3.7
	<b>Basic Dimensions</b>	4.1	Mast/fork carriage tilt forward/backward α/β (°)		7/6		7/6		7/6	
4.2		Lowered mast height h <sub>1</sub> (mm)		2540		2540		2540		4.2
4.3		Free lift h <sub>2</sub> (mm)		150		150		150		4.3
4.4		Lift height h <sub>3</sub> (mm)		3500		3500		3500		4.4
4.5		Extended mast height h <sub>4</sub> (mm)		4215		4215		4363		4.5
4.7		Overhead load guard (cab) height h <sub>6</sub> (mm)		2375		2375		2375		4.7
4.8		Seat height/standing height h <sub>7</sub> (mm)		1255		1255		1255		4.8
4.12		Coupling height h <sub>10</sub> (mm)		535/700		535/700		535/700		4.12
4.19		Overall length l <sub>1</sub> (mm)		4145		4145		4245		4.19
4.20		Length to face of forks l <sub>2</sub> (mm)		2995		2995		3095		4.20
4.21		Overall width b <sub>1</sub> (mm)		1400/–		1400/–		1450/–		4.21
4.22		Fork dimensions s/e/l (mm)		50/125/1150		50/150/1150		60/150/1150		4.22
4.23		Fork carriage ISO 2328, class/type A, B		3 A		3 A		4 A		4.23
4.24		Fork carriage width b <sub>3</sub> (mm)		1260		1260		1260		4.24
4.31		Ground clearance, laden, under mast m <sub>1</sub> (mm)		190		190		190		4.31
4.32		Ground clearance, centre of wheelbase m <sub>2</sub> (mm)		230		230		230		4.32
4.33		Aisle width for pallets 1000x1200 crossways Ast (mm)		4419		4419		4569		4.33
4.34		Aisle width for pallets 800x1200 lengthways Ast (mm)		4619		4619		4769		4.34
4.35		Turning radius Wa (mm)		2655		2655		2790		4.35
4.36		Smallest pivot point distance b <sub>13</sub> (mm)		900		900		900		4.36
<b>Performance Data</b>	5.1	Travel speed, laden/unladen km/h		22.2/22.5	21.5/21.5	21.7/22.5	21.5/21.5	21/22.5	21.5/21.5	5.1
	5.2	Lift speed, laden/unladen m/s		0.49/0.53		0.49/0.53		0.48/0.53		5.2
	5.3	Lowering speed, laden/unladen m/s		0.51/0.49		0.51/0.49		0.51/0.49		5.3
	5.5	Drawbar pull, laden/unladen N		38000/16730	38000/20500	37100/16730	37000/20500	36830/16730	35300/20500	5.5
	5.7	Gradient performance, laden/unladen %		25/26		24/26		23/26		5.7
	5.9	Acceleration time, laden/unladen s		5.7/5.2	6/5.6	5.0/4.5	6.1/5.6	5.1/4.6	6.2/5.6	5.9
	5.10	Service brake		hydrostatic		hydrostatic		hydrostatic		5.10
<b>V-Motor</b>	7.1	Engine manufacturer/type		Perkins1104C-44	GM 4.3L V6	Perkins1104C-44	GM 4.3L V6	Perkins1104C-44	GM 4.3L V6	7.1
	7.2	Engine power acc. to ISO 1585 kW		61.5		67		61.5		7.2
	7.3	Rated speed min <sup>-1</sup>		2200		2200		2200		7.3
	7.4	No. of cylinders/cubic capacity /cm <sup>3</sup>		4/4400		6/4294		4/4400		7.4
	7.5	Fuel consumption acc. to VDI cycle l/h, kg/h		5 <sup>3)</sup>		6.24 <sup>3)</sup>		5 <sup>3)</sup>		7.5
<b>Other Details</b>	8.1	Type of drive control		hydrostatic		hydrostatic		hydrostatic		8.1
	8.2	Operating pressure for attachments bar		160		160		160		8.2
	8.3	Oil volume for attachments l/min		30		30		30		8.3
	8.4	Sound level at driver's ear according to EN 12053 dB(A)		78		78		78		8.4
	8.5	Tow coupling, type DIN		15170/type H		15170/type H		15170/type H		8.5
1) 573 mm for DZ mast; with integrated sideshift: x = 596 mm (605 mm for DZ mast); with SS attachment: x = 636 mm (645 mm for DZ mast) 2) 588 mm for DZ mast; with integrated sideshift: x = 616 mm (625 mm for DZ mast); with SS attachment: x = 659 mm (668 mm for DZ mast) 3) 60 VDI working cycles/h										

This specification sheet according to VDI regulation 2198 only provides technical values for the standard truck. Non-standard tyres, different masts, additional equipment, etc. could produce other values. Right reserved for technical changes and improvements.

# Make use of the advantages

## Ergonomic operator's cab

The comfortable operator's cab helps maximise the operator's work capacity and offers outstanding ergonomics:

- Large visible step provides easy safe entrance and exit from the cab.
- Cushion cab mountings noticeably reduce vibrations and oscillations.
- Deluxe seat can be adjusted in three ways. Air suspension is available as an option.
- Infinitely adjustable steering column.
- Large, comfortable footwell with automotive style pedal layout.
- Hydraulic levers and directional control are ergonomically positioned to the right of the operator.
- Excellent forward visibility through panoramic mast and carriage.
- Clear visible analogue instrument panel has extensive warning and control lights.
- The optional deluxe cab provides a warm comfortable operating environment in all weathers.

## Engines

Large capacity industrial engines, specially designed for the requirements of forklift trucks provide power in every situation:

- 4.4 litre diesel engine (Perkins), developing 61.5 kW of power with a maximum torque of 302 Nm at 1400 rpm. Clean emissions and quiet combustion by means of indirect injection.
- 4.3 litre V6 gas engine (GM), developing 67 kW of power with a maximum torque of 260 Nm at 2200 rpm.
- Long service life due to robust construction and low engine speed.
- 500 hour servicing interval.
- Standard catalytic converter (TFG) for low emissions (NO<sub>x</sub>, CO, HC), closed-loop 3-way catalyst is optional.
- Low particulate emissions (DFG), with various optional particulate filter systems.
- 70 litre diesel tank integrated in the chassis.

## Hydrostatic drive and control system

The hydrostatic drive system is electrically controlled enabling precise control. 2 gears forward and reverse change automatically with travel speed.

- High productivity in rapid direction change applications.
- Driving characteristics can be changed easily via a laptop.
- Automatic engine speed increase with use of any hydraulic function.
- Single pedal control (accelerator) of travel speed and stopping.
- Optional twin pedal control.
- Low servicing costs due to the hydrostatic drive unit having no wearing parts (clutch, differential, gearbox, brakes).
- Driving characteristics can be easily changed via a laptop.

## Electrical system

12 Volt battery with 95 Ah (TFG/DFG) and 66A AC alternator. LPG engine with maintenance-free, non-contact electronic ignition.

## Tyres

Super elastic tyres as standard. Non-marking SE tyres or pneumatic tyres available as options.

Front axle				Track	Truck
Tyre type	No.	Size	PR	width	width
SE tyres	2	8.25-15	—	1170	1400
Pneumatic tyres	2	300-15	18	1170	1400
SE twin	4	8.25-15	—	1383	1900
Rear axle				Track	
Tyre type	No.	Size	PR	width	
SE tyres	2	28x9-15	—	1150	
Pneumatic tyres	2	28x9-15	12	1150	

## Steering

Hydrostatic steering provides low effort shock free steering, for maximum operator comfort and safety. The steer axle with integrated steering cylinder is fixed to the chassis through rubber bearings.

## Brake

The hydrostatic truck abandons the need for a conventional brake. Only in emergencies should the brake pedal be depressed:

- Complete wear-free hydrostatic braking.
- Hydrostatic braking eliminates the need to use the brake pedal, accelerator pedal controls acceleration and braking.
- Additional oil immersed multi-disk parking brake with spring accumulator requires no maintenance.
- Safety on ramps – handbrake engages automatically when truck comes to a halt or when the engine is switched off.

## Hydraulic system

The high performance filter system ensures clean oil and therefore the long service life of all the components:

- suction filter and filter in the return line.
- 70 litre hydraulic tank integrated in the chassis.
- The hydraulic tank is vented through a filter.
- Pressure limiting valves prevent excessive pressure and overloads.

## Mast

All components of the mast are designed for excellent visibility, high stability and a long service life:

- Slim line mast sections with lift cylinders hidden behind, give an excellent field of view for safe operation.
- Visibility through the carriage is excellent.
- Carriages comply with FEM/ISO-2328-3A (540s, 545s) or FEM/ISO-2328-4A (550s).

## Options

Various special options and mounted equipment are available for adapting to a range of application requirements or customer wishes.

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