Comfortable and safe operator cabin through advanced ergonomics

Hydrodynamic drive for efficient power transfer with maintenance free laminated brakes

Exceptionally quiet: only 73 dB(A) in the cabin

High performance 4 and 6 cylinder industrial engines with high torque at low rpm

DFG 660/670/680/690/S80/S90

Diesel fork lift with hydrodynamic drive (6000, 7000, 8000, 9000 kg)

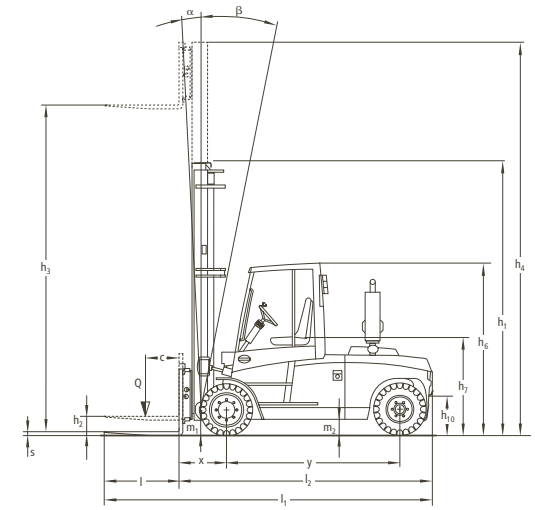
The Jungheinrich diesel fork lift trucks with hydrodynamic drive (torque converter) offer high productivity over medium to long distance handling operations. In these situations, the advantage of the power and the drive technology can be clearly seen; smooth, judder-free operation and optimal efficiency at medium to high rpm.

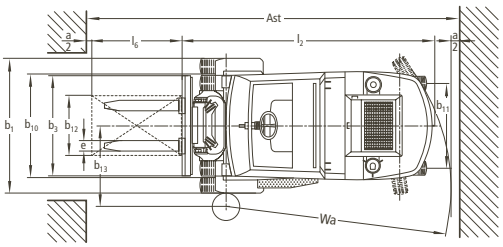
The high performance industrial engines ensure high torque at low rpm, thus increasing fuel efficiency and reducing noise. These robust engines are especially designed for applications in fork lift trucks to ensure high reliability and long life even in demanding applications. Soot/particulate filters are available as an option.

These 6 to 9 tonne trucks are also well suited for all applications in respect to travel and operational comfort. The ergonomic arrangement of the whole cabin offers safety and comfort, protecting the health of the operator, offering the best in operational comfort whilst maintaining peek operator concentration in a relaxed manner.

JUNGHEINRICH

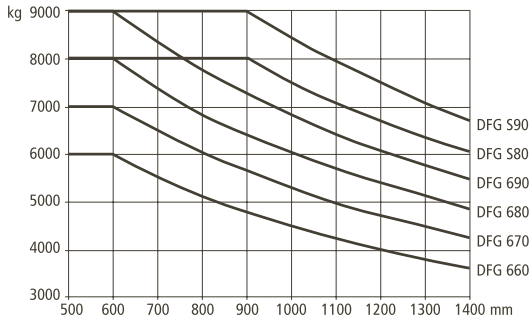
DFG 660/670/680/690/S80/S90





Capacity

Load centre distance "C" in mm



Mast table DFG 660 – S90									Capacity table (kg)		
Type	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 (°)		c = 600 mm		
			DFG 660/670	**DFG 680**	**DFG 660/670**	**DFG 680**	**DFG 660/670**	**DFG 680**	**DFG 660**	**DFG 670**	**DFG 680**
Two-stage mast ZT	3600	0	2710	3010	4510	4810	6 / 9	6 / 9	6000	7000	8000
	4000	0	2910	3210	4910	5210	6 / 9	6 / 9	6000	7000	8000
	4500	0	3160	3460	5410	5710	6 / 9	6 / 9	6000	7000	8000
	5000	0	3410	3710	5910	6210	6 / 9	6 / 9	6000	7000	8000
	5500	0	3660	3960	6410	6710	6 / 9	6 / 9	5500	6500	7500
	6000	0	3910	4210	6910	7210	6 / 5	6 / 5	5500	6500	7500
	6500	0	4160	4460	7410	7710	2 / 3	2 / 3	5200	6100	7370
Two-stage mast ZZ	3600	1800	2875	3025	4675	4825	6 / 9	6 / 9	6000	7000	8000
	4000	2000	3075	3225	5075	5225	6 / 9	6 / 9	6000	7000	8000
	4500	2250	3325	3475	5675	5725	6 / 9	6 / 9	6000	7000	8000
	5000	2500	3575	3725	6075	6225	6 / 9	6 / 9	6000	7000	8000
	5500	2750	3825	3975	6575	6725	6 / 9	6 / 9	5500	6500	7500
	6000	3000	4075	4225	7075	7225	6 / 5	6 / 5	5500	6500	7500
	6500	3300	4325	4475	7575	7725	2 / 3	2 / 3	5200	6100	7370
Three-stage mast DZ	4500	1500	–	2735	–	5736	–	6 / 5	–	–	7720
	5000	1667	2752	2902	6086	6236	6 / 5	6 / 5	5710	6720	7720
	5500	1833	2918	3068	6586	6736	6 / 5	6 / 5	5210	6220	7220
	6000	2000	3085	3235	7086	7236	2 / 3	2 / 3	5210	6220	7220
	6500	2167	3252	3402	7586	7736	2 / 3	2 / 3	5170	6090	7090
	7000	2333	3418	3568	8086	8236	2 / 3	2 / 3	4820	5670	6670
	7500	2500	3585	3735	8586	8736	2 / 3	2 / 3	4370	5150	6150
	8000	2667	3752	3902	9086	9236	2 / 3	2 / 3	3925	4620	5620
									c = 600 mm	c = 900 mm	
			DFG 690–S80	**DFG S90**	**DFG 690–S80**	**DFG S90**	**DFG 690–S80**	**DFG S90**	**DFG 690**	**DFG S80**	**DFG S90**
Two-stage mast ZT	3600	0	3160	3310	4960	5110	6 / 9	6 / 9	9000	8000	9000
	4000	0	3360	3510	5360	5510	6 / 9	6 / 9	9000	8000	9000
	4500	0	3610	3760	5860	6010	6 / 9	6 / 9	9000	8000	9000
	5000	0	3860	4010	6360	6510	6 / 9	6 / 9	9000	8000	9000
	5500	0	4110	4260	6860	7010	6 / 9	6 / 9	8250	7250	8250
	6000	0	4360	4510	7360	7510	6 / 5	6 / 5	8250	7250	8250
	6500	0	4610	4760	7860	8010	2 / 3	2 / 3	8100	7100	8100
Two-stage mast ZZ	3600	1800	3175	3325	4975	5125	6 / 9	6 / 9	9000	8000	9000
	4000	2000	3375	3525	5375	5525	6 / 9	6 / 9	9000	8000	9000
	4500	2250	3625	3775	5875	6025	6 / 9	6 / 9	9000	8000	9000
	5000	2500	3875	4025	6375	6525	6 / 9	6 / 9	9000	8000	9000
	5500	2750	4125	4275	6875	7025	6 / 9	6 / 9	8250	7250	8250
	6000	3000	4375	4525	7375	7525	6 / 5	6 / 5	8250	7250	8250
	6500	3300	4625	4775	7875	8025	2 / 3	2 / 3	8100	7100	8100
Three-stage mast DZ	4500	1500	2885	3035	5886	6036	6 / 5	6 / 5	8720	7720	8720
	5000	1667	3052	3202	6386	6536	6 / 5	6 / 5	8720	7720	8720
	5500	1833	3218	3368	6886	7036	6 / 5	6 / 5	7970	6970	7970
	6000	2000	3385	3535	7386	7536	2 / 3	2 / 3	7970	6970	7970
	6500	2167	3552	3702	7886	8036	2 / 3	2 / 3	7820	6820	7820
	7000	2333	3718	3868	8386	8536	2 / 3	2 / 3	7220	6220	7220
	7500	2500	3885	4035	8886	9036	2 / 3	2 / 3	6470	5470	6470
	8000	2667	4052	4202	9386	9536	2 / 3	2 / 3	5720	4720	5720

Technical Data in line with VDI 2198 as at: 10/2008

Identification	1.1	Manufacturer (abbreviation)	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	Jungheinrich	1.1
	1.2	Manufacturer's type designation	**DFG 660**	**DFG 670**	**DFG 680**	**DFG 690**	**DFG S80**	**DFG S90**	1.2
	1.3	Drive	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	1.3
	1.4	Operator type	seat	seat	seat	seat	seat	seat	1.4
	1.5	Load capacity/rated load Q (t)	6	7	8	9	8	9	1.5
	1.6	Load centre distance c (mm)	600	600	600	600	900	900	1.6
	1.8	Load distance, centre of drive axle to fork x (mm)	670	680	690	695	700	700	1.8
	1.9	Wheelbase y (mm)	2295	2295	2395	2545	2545	2745	1.9
Weights	2.1	Service weight kg	10500	10800	11700	12500	14400	15500	2.1
	2.2	Axle loading, laden front/rear kg	14900/1600	16000/1800	17700/2000	19000/2500	20400/2000	22500/2000	2.2
	2.3	Axle loading, unladen front/rear kg	5500/5000	5500/5300	6000/5700	6000/6500	7400/7000	8200/7300	2.3
Wheels, Chassis	3.1	Tyres	SE-L	SE-L	SE-L	SE-L	SE-L	SE-L	3.1
	3.2	Tyre size, front	355/65-15	355/65-15	8,25-15	8,25-15	300-15	300-15	3.2
	3.3	Tyre size, rear	8,25-15	8,25-15	8,25-15	300-15	300-15	300-15	3.3
	3.5	Wheels, number front rear (x = driven wheels)	2x/2	2x/2	4x/2	4x/2	4x/2	4x/2	3.5
	3.6	Tread, front b_{10} (mm)	1590	1590	1520	1520	1580	1580	3.6
	3.7	Tread, rear b_{11} (mm)	1535	1535	1535	1495	1495	1495	3.7
Basic Dimensions	4.1	Tilt of mast/fork carriage forward/backward α/β (°)	6/9	6/9	6/9	6/9	6/9	6/9	4.1
	4.2	Closed mast height h_1 (mm)	2710	2710	3010	3160	3160	3310	4.2
	4.4	Lift h_3 (mm)	3600	3600	3600	3600	3600	3600	4.4
	4.5	Height, mast extended h_4 (mm)	4510	4510	4810	4960	4960	5110	4.5
	4.7	Height of overhead guard (cabin) h_6 (mm)	2705	2705	2705	2705	2705	2705	4.7
	4.8	Seat height/stand height h_7 (mm)	1600	1600	1600	1600	1600	1600	4.8
	4.12	Coupling height h_{10} (mm)	500	500	500	500	500	500	4.12
	4.19	Overall length l_1 (mm)	4760	4770	4880	5035	5640	5840	4.19
	4.20	Length to face of forks l_2 (mm)	3560	3570	3680	3835	3840	4040	4.20
	4.21	Overall width b_1/b_2 (mm)	1820/–	1820/–	2002/–	2002/–	2150/–	2150/–	4.21
	4.22	Fork dimensions s/e/l (mm)	50/150/1200	60/150/1200	60/150/1200	65/150/1200	70/180/1800	70/180/1800	4.22
	4.23	Fork carriage ISO 2328, class/type A, B	4A	4A	4A	4A	4A	4A	4.23
	4.24	Fork-carriage width b_3 (mm)	1800	1800	2000	2000	2100	2100	4.24
	4.31	Ground clearance, laden, below mast m_1 (mm)	250	250	250	250	250	250	4.31
	4.32	Ground clearance, centre of wheelbase m_2 (mm)	250	250	250	250	250	250	4.32
	4.33	Aisle width for pallets 1000x1200 crossways Ast (mm)	5120	5130	5240	5545	5545	5795	4.33
	4.34	Aisle width for pallets 800x1200 lengthways Ast (mm)	5320	5330	5440	5745	5745	5995	4.34
	4.35	Turning radius Wa (mm)	3250	3250	3350	3650	3900	3900	4.35
	4.36	Internal turning radius b_{13} (mm)	1270	1270	1320	1390	1490	1490	4.36
Performance Data	5.1	Travel speed, laden/unladen km/h	22,4/22,5	22,4/22,6	22,4/22,5	22,4/22,6	22,3/22,6	22,3/22,6	5.1
	5.2	Lift speed, laden/unladen m/s	0,50/0,60	0,40/0,60	0,40/0,60	0,40/0,60	0,40/0,60	0,40/0,60	5.2
	5.3	Lowering speed, laden/unladen m/s	0,60/0,36	0,60/0,36	0,60/0,36	0,60/0,36	0,60/0,36	0,60/0,36	5.3
	5.5	Drawbar pull, laden/unladen N	49570/49570	49570/49570	49570/49570	49570/49570	49570/49570	52930/52930	5.5
	5.7	Gradeability, laden/unladen %	30,3/32,0	28,7/31,0	27,1/31,0	24,6/28	21,5/25,0	20,9/24,0	5.7
	5.9	Acceleration time, laden/unladen s	6,0/5,0	6,0/5,0	6,0/5,0	7,0/6,0	7,0/6,0	7,0/6,0	5.9
	5.10	Service brake	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	5.10
Combustion Engine	7.1	Engine manufacturer/type	Perkins/ 1104D E44TA	Perkins/ 1104D E44TA	Perkins/ 1104D E44TA	Perkins/ 1104D E44TA	Perkins/ 1104D E44TA	Perkins/ 1106D E66TA	7.1
	7.2	Engine power acc. to ISO 1585 kW	91	91	91	91	91	90	7.2
	7.3	Rated speed 1/min	2200	2200	2200	2200	2200	2200	7.3
	7.4	No. of cylinders/displacement anz/cm³	4/4400	4/4400	4/4400	4/4400	4/4400	6/6600	7.4
	7.5	Fuel consumption acc. to VDI cycle l/h	7,9	8,3	8,7	9	9	10,5	7.5
Others	8.1	Type of drive control	hydrodynamic	hydrodynamic	hydrodynamic	hydrodynamic	hydrodynamic	hydrodynamic	8.1
	8.2	Operating pressure for attachments bar	160	160	160	160	160	160	8.2
	8.3	Oil volume for attachments l/min	80	80	80	80	80	80	8.3
	8.4	Sound level at the driver's ear according to EN 12053 dB(A)	73	73	73	73	73	73	8.4

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 cabin
Comfortable, performance orientated ergonomics.
- Easy vehicle entry and exit; low step position, easily viewable from above.
- Operator cabin completely sealed from engine and suppressed against noise and vibration.
- Smoothly adjustable and mechanically cushioned comfort seat (air cushioning optional).
- Height and tilt adjustable steering column.
- Hydraulic levers fixed to the operator seat (SOLO-PILOT) automatically follow all seat adjustments.
- Travel direction switch on the steering column (optionally available on the accelerator or integrated into the MULTI-PILOT control lever).
- Abundant and comfortable leg room with combined brake/inch pedal.
- Excellent visibility through the mast due to the location of hydraulic cylinders hidden behind the mast profiles.
- Comfortable operation in all weather conditions with the comprehensively equipped standard cabin.
- Specially designed roof and cabin walls offering exceptional all-round visibility
- 180 degrees turning (left) seat (optional).

Powerful engines
The turbo diesel industrial engines are specially designed for the required drive power in fork lift truck applications.
- DFG 660–690 and S80: 4-cylinder-turbo diesel engine (4.4-l-Perkins) with electronic injection producing 91 kW at 2200 U/min. Maximum Torque: 490 Nm at 1400 U/min.
- DFG S90: 6-cylinder-turbo diesel engine (6.6-l-Perkins) with electronic injection producing 90 kW at 2200 U/min. Maximum Torque: 545 Nm at 1400 U/min.
- Exhaust emissions below allowable emission values in accordance with ISO 8178 (fulfils exhaust emission part 3a for diesel engines).


Operator cabin

- Particle/soot filter (optional).
- 115 litre fuel tank integrated into chassis.

Resilient hydrodynamic drive
The hydrodynamic drive with electronically controlled 2 speed power shift transmission ensures an economic transmission of power. Other advantages:
- Precise and smooth power transmission.
- Automatic shift and electronically controlled shift lock at travel speeds of more than 4 km/h.
- Inch pedal (combined crawl-speed/brake pedal) for precise travel during full lift capacity.
- Travel comfort packet (optional) with automatic increase in rpm during lifting, hydrostatic handling and large multifunction display. Especially suited for reversing and manoeuvring.

Service
Low service costs through good accessibility.
- Tiltable cabin – hinged at the rear and hydraulically operated.
- Simple access for daily maintenance (oil and water).
- Long service intervals of 500 hours.

Intelligent electronics
- Splash proof electronic drive and hydraulic controllers (in accordance with IP 64) connected via CAN-Bus.
- 12 Volt battery, 135 Ah/115 A alternator.
- Precise control of hydraulic functions using electromagnetic valves.

Precise steering
The maximum in steering comfort and highest safety through;
- Hydrostatic steering for extremely light and precise steering.
- Steering axle with integrated steer cylinder.

Brakes
Two independent brake systems on the front wheels.
- Foot brake – hydraulic servo; maintenance free, encapsulated oil laminate brakes with servo assistance.
- Parking brake: electro-hydraulic disk brakes operated via a button located on the display.

Reliable hydraulics
- Fine filtration in the fluid return circuit.
- 180 l hydraulic tank integrated into the chassis.
- Filtration of hydraulic tank ventilator.
- Pressure release valves protect against over pressurisation and overload.

Strong mast
- Slim mast profiles with lift cylinders hidden behind allow an extra wide field of view.
- Optimised visibility through the fork carriage.
- Fork carriage in accordance with FEM/ISO-2328-4A.

Additional equipment
Many custom build options and various attachments are available in order to adapt the truck to suit customer requests or different applications.

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Jungheinrich AG
ISO 9001, ISO 14001
Certification of Quality and Environment Management.

Jungheinrich trucks conform to the European Safety Requirements.

8090.GB.0,5.10.2008.r.s.

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Well worthwhile