



TECHNICAL SPECIFICATIONS

Pneumatic Diesel Forklift Trucks

D110/130/160S-5

11,000kg to 16,000kg Capacity

PRO5
SERIES



11,000/13,000/16,000 kg Capacities

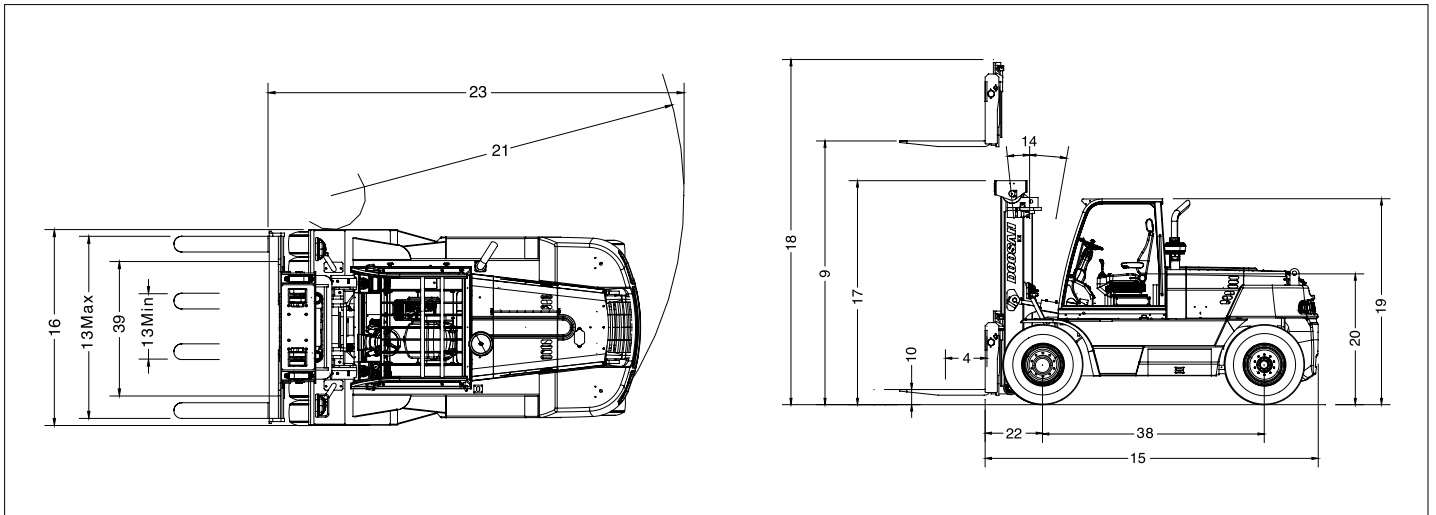
Engine Powered Forklift Trucks
Pneumatic Tire, Diesel

MAIN VEHICLE SPECIFICATIONS

			D110S-5		D130S-5		D160S-5		
CHARACTERISTICS	2 Model			D110S-5		D130S-5		D160S-5	
	3 Load Capacity	at rated load centre	kg	11,000		13,000		16,000	
	4 Load Centre		mm	600		600		600	
	5 Power Type	Elec, Diesel, LPG, Gasoline		Diesel		Diesel		Diesel	
	6 Operator Type			driver seated		driver seated		driver seated	
	7 Tire Type	P: Pnu, E: Solid Soft, C: Cush		P		P		P	
	8 Wheels (x=Driven)	Front / Rear		2 x 2 / 2		2 x 2 / 2		2 x 2 / 2	
	9 Max. Fork Height	with STD 2-stage mast	mm	3,000		3,000		3,000	
10 Free Lift		mm	0		0		0		
12 Fork Carriage	ISO Class		-		-		-		
DIMENSIONS	13 Forks	Length x Width x Thickness	mm	1,350 x 200 x 70		1,350 x 200 x 85		1,350 x 200 x 85	
		Fork Spacing(Min x Max)	mm	470 x 2,140		470 x 2,140		470 x 2,290	
	14 Tilt of Mast	Forward/Backward	deg	15 / 12		15 / 12		15 / 12	
	15 Overall Dimensions	Length to Fork Face	mm	4,340		4,340		4,715	
		Overall Width	mm	2,350		2,350		2,490	
		Mast Lowered Height	mm	2,970		2,970		3,170	
		Mast Extended Height	mm	4,470		4,470		4,670	
		Overhead Guard Height	mm	2,765		2,765		2,928	
	19	Seat Height	mm	1,660		1,660		1,820	
	21 Turning Radius	Minimum outside	mm	4,040		4,040		4,400	
22 Load Moment Centre		mm	755		760		815		
23 Aisle 90 degree stacking(add load length & clearance)		mm	4,790		4,790		5,195		
PERFORMANCE	24 Travel Speed	Loaded/Unloaded	km/h	33.0 / 36.0		33.0 / 36.0		29.0 / 33.0	
	25 Lifting Speed	Loaded/Unloaded	mm/s	450 / 490		430 / 490		410 / 450	
	26 Lowering Speed	Loaded/Unloaded	mm/s	480 / 430		480/430		430 / 410	
	28 Max. drawbar pull	Loaded at 1.0 mph(1.6 km/h)	kg	8,080		8,080		10,400	
	30 Max. gradeability	Loaded at 1.0 mph(1.6 km/h)	%	33		29.5		28.5	
	WEIGHT	32 Total Service Weight , Unloaded		kg	15,540	15,540	16,800	16,800	18,900
33 Axle Load		Loaded, Front / Rear	kg	23,340 / 3,200	23,340 / 3,200	26,500 / 3,300	26,500 / 3,300	31,870 / 3,030	31,870 / 3,030
		Unloaded, Front / Rear	kg	7,110/8,430	7,110 / 8,430	7,300 / 9,500	7,300 / 9,500	8,680 / 10,220	8,680 / 10,220
34									
CHASSIS	35 Tyres	Number of wheels (F/R)		4 / 2		4 / 2		4 / 2	
		Size , Front		10.00 x 20 - 16PR		10.00 x 20 - 16PR		12.00 x 20 - 18PR	
		Size , Rear		10.00 x 20 - 16PR		10.00 x 20 - 16PR		12.00 x 20 - 18PR	
	36								
	37								
	38 Wheel Base	Distance	mm	2,850		2,850		3,150	
	39 Tread Width	Front / Rear	mm	1,724 / 1,860		1,724 / 1,860		1,825 / 1,910	
	40 Ground Clearance	Loaded at the lowest point	mm	270		270		270	
Loaded at centre of wheelbase		mm	360		360		370		
41									
42 Brakes	Service		Foot / Air		Foot / Air		Foot / Air		
43	Parking		Hand / Air		Hand / Air		Hand / Air		
44									
45 Battery	Voltage / Ampere	V/AH	24(12 x 2) / 100		24(12 x 2) / 100		24(12 x 2) / 100		
POWER TRAIN	49	Manufacturer		Doosan		Doosan		Doosan	
		Model		DL06	DE08TS	DL06	DE08TS	DL06	DE08TS
	50 Engine	Rated Power (DIN)	HP(PS)/rpm	140 / 2,100	140 / 2,200	140 / 2,100	140 / 2,200	160 / 2,100	160 / 2,200
			kW/rpm	103 / 2,100	103 / 2,200	103 / 2,100	103 / 2,200	117.8 / 2,100	118 / 2,200
	51	Maximum Torque	kgm/rpm	59 / 1,400	55 / 1,400	59 / 1,400	55 / 1,400	67 / 1,400	63 / 1,400
	52	Cylinders/ Displacements	CC	6 / 5,890	6 / 8,071	6 / 5,890	6 / 8,071	6 / 5,890	6 / 8,071
55	Type		Full Autoshift		Full Autoshift		Full Autoshift		
	Number of Speed (Fwd/Rev)		3 / 3		3 / 3		3 / 3		
57 Hydraulic Pressure	System	bar	190		190		210		
	Attachment	bar	140		140		140		

Note: Specification values quoted in this specification sheet has been rounded. Performance may vary due to operation conditions.
Products and specifications are subject to improvement and change without prior notices.

DIMENSIONAL DRAWING



MAST SPECIFICATIONS and RATED CAPACITIES

Model	Mast Type	Maximum Fork Height	Fully Lowered Height	Fully Extended Height	Free Lift	Rated Load Capacities			
						With Load Backrest	Tilt Angle		LC 600mm
							deg	deg	
D110S-5	STD	3000	2965	4465	0	15	12	11000	
		3500	3215	4965	0	15	12	11000	
		4000	3465	5465	0	15	12	11000	
		4500	3715	5965	0	15	12	11000	
		5000	4165	6665	0	15	12	11000	
		5500	4415	7165	0	15	12	10500	
		6000	4665	7665	0	15	12	9500	
D130S-5	STD	3000	2965	4465	0	15	12	13000	
		3500	3215	4965	0	15	12	13000	
		4000	3465	5465	0	15	12	13000	
		4500	3715	5965	0	15	12	13000	
		5000	4165	6665	0	15	12	13000	
		5500	4415	7165	0	15	12	12000	
		6000	4665	7665	0	15	12	11000	
D160S-5	STD	2900	2950	4400	0	15	12	16000	
		3000	3170	4670	0	15	12	16000	
		3500	3420	5170	0	15	12	16000	
		4000	3670	5670	0	15	12	16000	
		4500	3920	6170	0	15	12	16000	
		5000	4370	6870	0	15	12	16000	
		5500	4620	7370	0	15	12	15000	
	6000	4870	7870	0	15	12	14000		
	FFT	3700	2930	5335	1380	15	10	15000	
		4000	3030	5635	1480	15	10	15000	
		4500	3195	6130	1645	15	10	15000	
		5000	3360	6635	1815	15	10	15000	
		5500	3530	7135	1980	15	10	14400	
		6000	3695	7630	2145	15	10	13400	

Note: Mast specifications & Rated Capacities are based on standard chassis with pneumatic tire and without sideshifter.

TECHNICAL INFORMATION

● Standard Equipment

- Chassis with Doosan Turbo-charger
- DL06 : 5.9 Liter
- DE08TS : 8.1 Liter
- 3 Speeds full autoshift transmission and inching system
- Fully hydraulic power steering with load sensing
- Integrated Instrument Panel
- Fully air actuated parking brake and service brake
- Deluxe suspension seat with retractable seat belt
- 2 front and rear flood lights and combination lamps
- Reinforced anisometric overhead guard rail for cabin
- Pilot operated lift/ tilt locking 2 spool hydraulic Valve
- High visibility 2 stage 3000 mm(118 in) Mast
- Dual element air cleaner
- 15°Forward / 12°Backward tilt cylinders.
- 1350 mm (53 in) length forks

● Mast

Doosan forklift trucks offer a full range of wide view masts;

- STD double mast : 3.0m(118 in) ~ 6.0m(236 in)
- FFT triple full free mast : 3.7m(145 in) ~ 6.0m(246 in) ;
Suitable for stacking applications in areas with limited height clearance but where maximum lift is also required.
(Available on D160S-5 only)

All masts are steel weldment uprights with rigid cross members for strength and reliability. Secondary lift cylinders have cushioning valves to ensure smooth and silent staging during lifting and lowering.

● Carriage

D110/130/160S-5 series is equipped with high tensile shaft mounting type carriage. An optional integrated sidsifter and fork mover is also available.

● Engine

Full Range Electric Governed Turbocharger Doosan DL06 5.9 liter Diesel Engine

The powerful and reliable 6 cylinder Doosan DL06 5.9 liter diesel engine provides excellent performance for even the toughest applications. Doosan DL06 diesel engine complies with EPA Tier III and Euro Stage 3 emission regulation. High fuel injection system pressure, 4 valves per cylinder and CAC(Charged Air Cooler) turbocharger maximizes engine performance with low fuel consumption rates. The ECU(Engine Control Unit) controls basic engine output functions, such as proper and optimum AFR(Air to Fuel Ratio), engine torque and speeds.

The ECU also protects the engine from abnormal engine conditions, such as 'High Engine Coolant Temp' and 'Low Engine Oil Pressure'.

High Powered Turbo charger Doosan DE08TS 8.1 Liter Diesel Engine

- Low emission to meet EU STAGE II and EPA TIER II emission regulation
- Low noise level by 2-stage injection pressure system
- Optimized combustion chamber design for low smoke and lower fuel consumption
- High power and efficiency at high altitude by turbo-charged intake system
- Reduced diesel knocking noise by right ignition time
- Linear arrangement of cylinders for excellent serviceability
- Heavy duty fuel filter with water separator
- Design for long engine life

● Full Autoshift Transmission and Electric Inching System

The electric control module of the transmission automatically changes truck travel speed based on the engine speed and the load on the drive wheels. With its advanced electric control system, operator is free from the inconvenience of gear shifting while driving.

Also operator can select various operating modes, such as manual shifting, starting at low speed gear shifting or at high speed gear shifting depending on application needs. The self-diagnostics and easy check-up functions will reduce the time to troubleshoot any problems.

The electric inching system permits even massive loads to be moved with great precision. It is controlled by selection switch activated by the operator.

● Rugged Drive Axle

Planetary gear drive axle consists of four pinion and hypoid differential gears and radial sun and ring gears with steel housing, hardened load bearing spindle and full-floating axle shaft to protect from high impact shock loading.

Gears and bearings are positively lubricated by oil flow.

● Air Shoe Brakes

Large diameter and self-adjusting non-asbestos shoe brakes are provided as standard equipment. The fully air-actuated shoe brakes are boosted by large double air- compressed chambers. S-cam type mechanism provides secure brake force with low brake pedal effort. For operating safety this brake system adopts power-off system, self-lock brake system, which activates the air-parking brake in case of brake line malfunction.

● Side Tiltable Operator Compartment and Cab

Easy access to powertrain components is facilitated by activating the side tiltable operator compartment or optional cab at the touch of a button . The hydraulic actuated cylinder tilts operator compartment or cab to right side about 65 degrees for easy service access.

● Operator Area

Large, anti-skid open steps and long hand grips welded on overhead guard strut provide easy operator access to and from the seat. Infinitely adjustable tilt steer column, and deck-mounted pilot operated hydraulic control levers, ensure operator comfort and reduced fatigue. 6 direction adjustable, operator weight adjustment full-suspension deluxe seat provides comfortable working positions for all sizes of operators.

The integrated easy-to-read instrument panel alerts the operator to all truck conditions at a glance from their seated position.

● Optional Equipment

- Solid Soft Tyres
- Tiltable Operator Compartment and Deluxe Operator Cab
- Operator Comfort Features with Operator Cab
 - Air Conditioner / Heater
 - Sound Suppression Package
 - CD Player & Radio for Cabin
- Pilot Operated 3/4/5 Spools Hydraulic Control Valve
- Integral Sidsifter or Integral Sidsifting Fork Positioner
- 4 Working Lights
- 2 Front Lights on Fender
- Rear Strobe Lamp / Spark Arrestor
- Catalytic Muffler
- Battery Isolated Switch
- Lockable Fuel Cap



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