



# TECHNICAL SPECIFICATIONS

Pneumatic Diesel Forklift Trucks  
D110/130/160S-5 Interim Tier-4  
11,000kg to 16,000kg Capacity

**PRO5**  
SERIES



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

Engine Powered Forklift Trucks

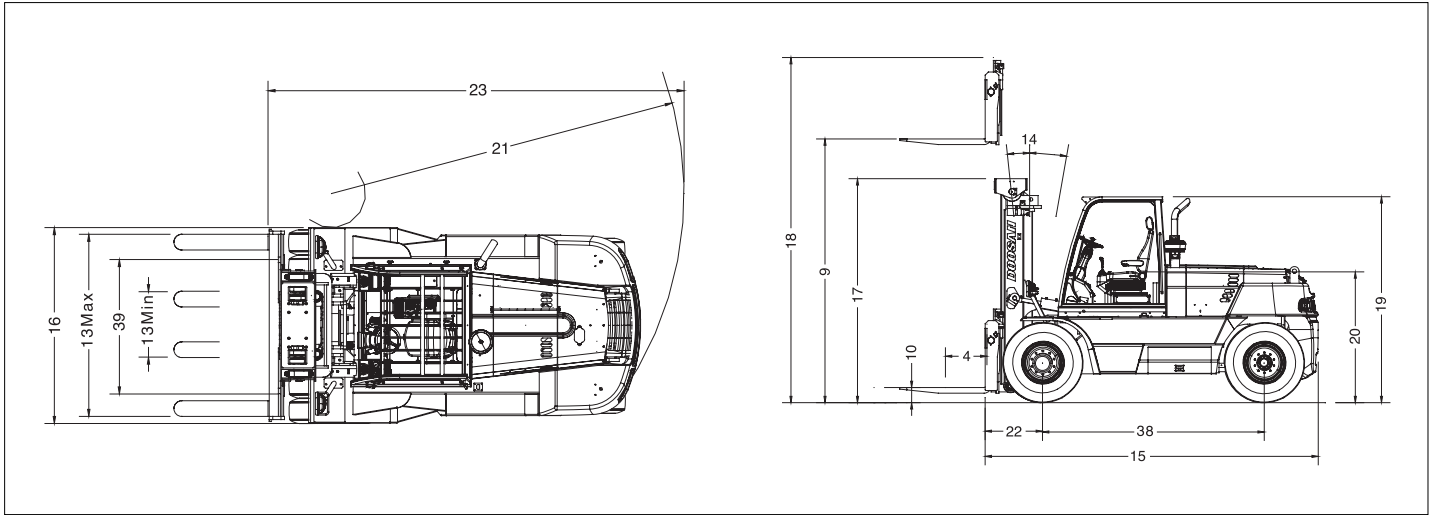
Pneumatic Tire, Diesel

## MAIN VEHICLE SPECIFICATIONS

CHARACTERISTICS	1	Manufacturer			DOOSAN	DOOSAN	DOOSAN			
	2	Model			D110S-5	D130S-5	D160S-5			
	3	Load Capacity	at rated load center	kg	11,000	13,000	16,000			
	4	Load Center		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			
DIMENSIONS	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		-	-	-			
	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	4,750			
			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				
	20		mm	1,660	1,660	1,820				
21	Turning Radius	Minimum outside	mm	4,040	4,040	4,400				
22	Load Moment Center		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	410 / 480	400 / 480	370 / 440			
	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	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
CHASSIS	35		Number of wheels (F/R)		4 / 2	4 / 2	4 / 2			
	36	Tires	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			
	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	224	224	224			
			Loaded at center of wheelbase	mm	363	363	363			
	42	Brakes	Service		Foot / Hydraulic	Foot / Hydraulic	Foot / Hydraulic			
			Parking		Hand / Hydraulic	Hand / Hydraulic	Hand / Hydraulic			
POWER TRAIN	45	Battery	Voltage / Ampere	V / AH	24(12 x 2) - 100	24(12 x 2) - 100	24(12 x 2) - 100			
	49	Engine	Manufacturer		DOOSAN	DOOSAN	DOOSAN			
			Model		DL06K	DL06K	DL06K			
			Rated Power (DIN)	HP(PS) / rpm		140 / 2,200	140 / 2,100	160 / 2,100		
				kW / rpm		103 / 2,100	103 / 2,100	117.7 / 2,100		
			Maximum Torque	kgm / rpm		59 / 1,400	59 / 1,400	67 / 1,400		
	52	Cylinders / Displacements	CC		4 / 6 / 5,890	4 / 6 / 5,890	4 / 6 / 5,890			
55	Transmission	Type		Autoshift	Autoshift	Autoshift				
		Number of Speed (Fwd/Rev)		3 / 3	3 / 3	3 / 3				
57	Hydraulic Pressure	System	bar	200	200	225				
		Attachment	bar	160	160	160				

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	With Load Backrest	Tilt Angle		LC 600mm
								FWD deg	BWD 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 DL06K 5.9Liter Interim Tier-4 Engine
- Tilttable Operator Compartment
- 3 Speed Full Auto Shift Transmission And Inching System
- Pilot Operated Lift / Tilt Locking 2 Spool Hydraulic Valves
- Fully Hydraulic power Steering With Load Sensing
- Deluxe Suspension Seat With Retractable Seat Belt
- High Visibility 2 Stage 3000mm(118 in) Mast
- 15° Forward / 12° Backward Tilt Cylinders
- Integrated Instrument Panel
- 1350 mm (53 in) Length Forks
- Dual Element Air Cleaner
- Lift and Tilt Locking
- CD Player & Radio
- Tool kit

### ● 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 sidershifter and fork mover is also available.

### ● DL06K Interim Tier-4 and Stage IIIB

#### Design Features

Doosan's new Tier4 interim engine is ready for the stringent new regulations with Doosan EGR+DPF system and designed to provide better torque, better fuel efficiency and better quality.

- EGR System (Exhaust Gas Recirculation)  
EGR system cools the exhaust gas through EGR Cooler and send the cooled exhaust gas air back to the combustion chamber to reduce the harmful exhaust gas, or NOx.
- DPF System (Diesel Particulate Filter)
  1. DOC: DOC reduces the amount of HC and CO in the exhaust gas by oxidising them and generate heat by HC for Active regeneration and create NOx to naturally regenerate N2 within DPF
  2. DPF: DPF eliminates PM in the exhaust gas into atmosphere.
  3. DPF Muffler: DPF Muffler functions as the catalytic converter and silencer and consists of DOC and DPF inside.
  4. External HC Dosing System(Metering Unit, Injection Unit):  
Injection Unit is installed on the exhaust pipe and spray out HC in front of DOC in order to heat DPF

### ● 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.

### ● Oil-Cooled Disc Brakes

Oil cooled disc brakes are available on D110/130/160S-5 series lift truck and are recommended for applications in humid, abrasive or corrosive environments, or with ramp, loading and unloading applications. This enclosed brake system eliminates outside contamination, significantly extends brake life and decreases maintenance cost. Oil cooled disc brakes have service intervals 5 times longer than conventional shoe brakes, and require little to no maintenance.

### ● Side Tilttable Operator Compartment and Cab

Doosan's Side tilttable operator compartment with full steel cabin, heaters, demisters, CD Stereo makes servicing quick and easy. An electrically assisted hydraulic actuated cylinder tilt the compartment for easy access to inside truck components.

### ● 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 Tires
- Pilot Operated 3/4/5 Spools Hydraulic Control Valve
- Integral Sidershifter or Integral Sideshifting Fork positioner
- Deluxe Suspension Seat- Cloth
- Air Conditioner / Heater
- 2 Rear Working Light
- 2 Front Light on Fender
- Rear Strobe Lamp / Spark Arrestor
- Battery Isolated Switch
- Lockable Side Covers
- Speed Meter
- Full Free Triple Mast (Only D160S-5)
- Zeus Cabin



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