

DISD

SD 300N

Main Performance Parameters (Standard Configuration)

Total Operating Mass: 16,500KG ± 200kg

Rated Load: 5,000KG

Rated Power: 162KW

Rated Bucket Capacity: 2.7~4.0

Max. Breakout Force: 160kN

Max. Traction Force: 164kN

Max. Dump Height: 3,160mm

Min. Turning Radius (at bucket edge) : 6,678mm

Overall Dimensions (Length x Width x Height): 7,780 x 2,992 x 3,470mm

HIGH EFFICIENCY TRANSFER EXPERT

SMART SHAPE, GIANT STRENGTH



Photos may include optional equipment

Courtesy of Machine Market

The most efficient expert in loose bulk materials transfer!

SD 300N



Main Performance Features

- The Weichai Steyr low-RPM engine features an oil pump that has accepted professional test bench special adjustment, making engine acceleration performance much higher than industry level.
- Reasonable match between transmission and torque converter as well as fully play of engine power enable the whole machine to deliver stronger traction force -14% higher than industry level.
- The advanced Doosan drive axle and improved differential bevel gear process have increased gear flexural strength by 34.6%, enhancing the reliability of the drive axle and extending its lifespan.
- With 2,900mm wheel base and turning radius reduced to 6,678mm, the machine model is specially designed for light materials, enabling greater agility of movement and more efficient operation.



Integrated with 40 years of international standard professional loader manufacturing technologies, Little Giant is suitable for Emerging countries's working conditions.



- Manufactured according to a reasonable and optimized design based on typical working conditions, the hydraulic system adopts double-pump confluence technology, and makes full use of power and energy, thereby minimizing engine oil pressure load and power loss and enabling miniaturization of the hydraulic pump.
- The hydraulic cylinder seals and hydraulic holes in important areas are all imported PARKER brand parts, effectively improving the reliability of the hydraulic system.

- By using Doosan patented technology and a redesigned layout and materials, the cooling system significantly reduces hydraulic oil temperature and water temperature during operation and is capable of ensuring the unit's capacity to work 24hrs continuously under 45 °C of temperature without risk of overheating.
- Paints imported from South Korea offer more outstanding anti-rust and anti-fade effects.

High Efficiency, Energy Saving Smart Shape, Giant Strength

“DISD – A Pioneer of Low-RPM Engine Matching Technology!”



Engine

With 162KW rated power and 2,000 rpm rated rotation, the Weichai Steyr WD10G220E23 engine has been adjusted on the basis of condition subdivision, enabling lower fuel consumption in the most commonly used operating states.



Turbo Charged

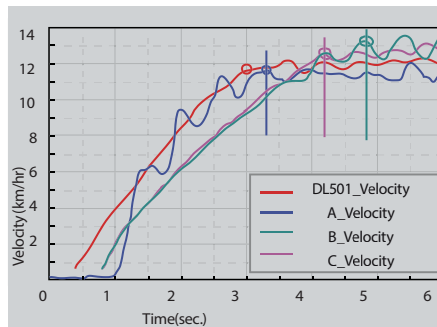
Large torque reserve, low fuel and oil consumption rate, and good plateau adaptability comply with State II emission standards.

2,000 rpm low-speed + perfect power matching + double pump confluence technology make Doosan loaders more fuel efficient (about 10%) than the competitors' products under the same working conditions.



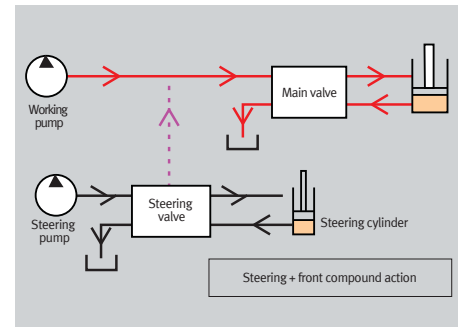
GearBox

The torque converter gearbox from an established domestic manufacturer perfectly matches the engine, while Doosan's uniquely designed and patented gearshift-shock-improving technology efficiently prolongs the service life of the gearbox.



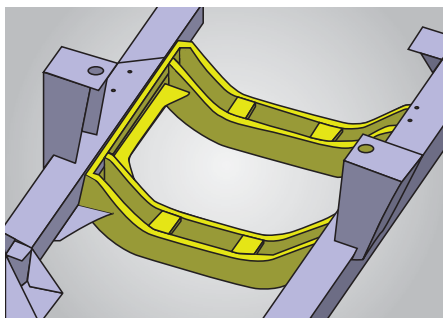
Acceleration Performance Exceeds Industry Level

The injection pump has undergone special debugging at a professional test bench and features greatly improved engine acceleration performance, enabling Doosan machines to start work in the 3rd second while other brand machines are still in the acceleration phase.

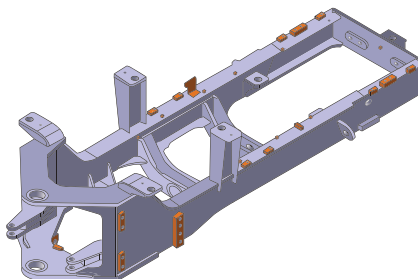


Advanced Double Pump Confluence Technology

The hydraulic system uses condition subdivision to realize a reasonable match, and makes full use of power and energy, thereby minimizing engine oil pressure load and power loss and enabling miniaturization of the hydraulic pump.



Connecting parts of swing frame adopt a reinforcement design to offer greater strength.



Thanks to the box-shaped structure of the rear frame side plates, the enhanced frame strength makes it easy to meet the challenge posed by harsh working conditions.

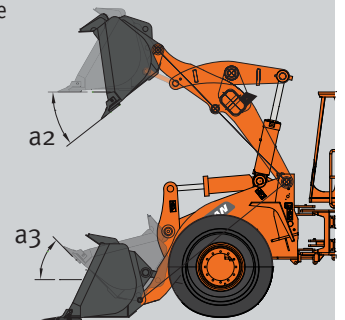


The whole center of gravity has been moved backward, and the real axle load bearing proportion has been increased to 54% , resulting in a tipping load 10% higher than the industry level and greatly improved product stability.

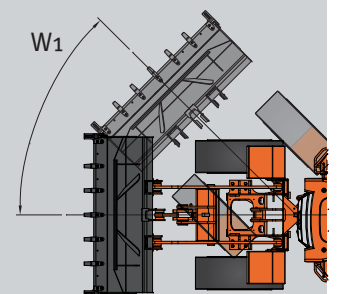
Perfect Match between Power and Speed, Unrivalled Work Efficiency in the Industry



Increasing the tilting angle a_3 in the carry position allows the machine to move on bumpy roads without spilling any material, while increasing the dump angle a_2 enables the machine to dump materials more quickly and completely.

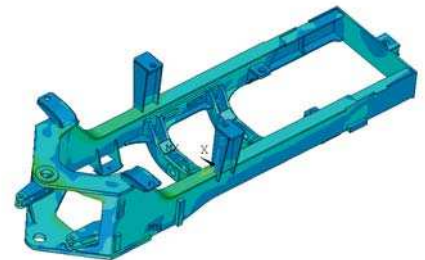
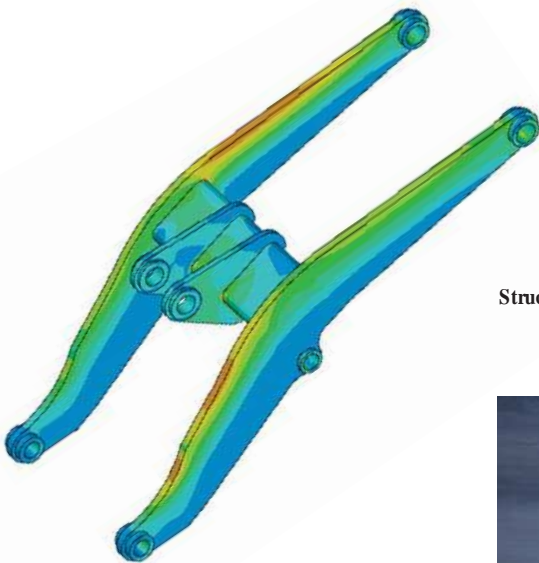


With a 2.9m wheelbase and a 6,678mm turning radius at the bucket edge, which is the smallest among similar products in the industry, Doosan's machine is specifically designed for light density material working conditions and offers greater overall flexibility, as well as more apparent advantages especially in confined work spaces.



Reliability Low Oil Temperature for High Quality

**Greater Reliability Ensured by Efficient Cooling,
24 Hours Continuous Work under 45°C Environment
without Risk of Overheating**



Structural Parts Made of high-strength steel and calculated using finite element analysis software , it guarantees easy operations under the most onerous and toughest working conditions.



Multi-Way Valve
Adoption of new solid valves of well-known brands and processed with high-precision, delivering good micro-motion performance, reduced internal leakage, and a prolonged service life.

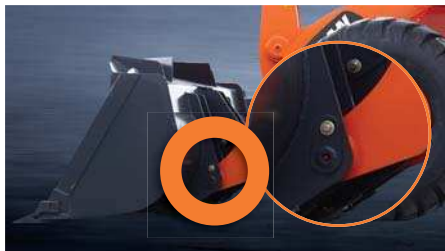
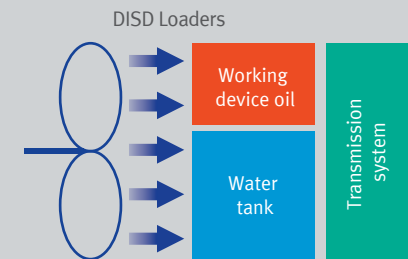
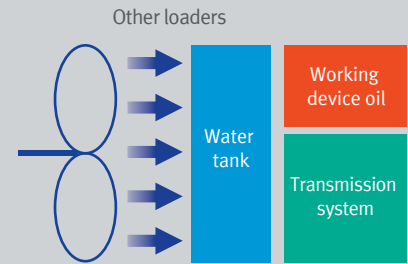


Low Temperature Startup (Flame Preheating)
The low temperature startup device (Diesel electric heating + Air flame preheating) effectively improves work situations where it is difficult to startup in low temperatures during winter.



Cooling System

By improving the cooling system's layout and materials, DISD's unique patented cooling technology greatly reduces hydraulic oil temperature and water tank temperature during the machine's operation time, thus resolving the high temperature problem that has been hanging over the industry for many years. The machine is guaranteed not to overheat even after 24hrs of continuous work under 45 °C atmospheric temperature.



The hinge pins for operating devices in 6 positions have a radius of 5-10mm larger than similar products in the industry. The pin roll sets are made of highly wear-resistant materials and processed with a special heat treatment technology, thus offering greater durability and second-hand residual value.



The method of articulating the front and rear frames has been changed by replacing tapered roller bearings with joint bearings, effectively preventing such common problems as loose and breakage in the industry.



Hydraulic Seal Piping

The adoption of PARKER brand parts has greatly improved the quality of the hydraulic system. In addition, all of the hydraulic parts must satisfy the endurance test standard in South Korea to ensure the high reliability of Doosan's loaders.



Drive Axle

DISD's original drive axle and improved differential bevel gear processing have increased gear flexural strength by 34.6%, improving the reliability of the drive axle and extending its lifespan.



Transmission Shaft

The use of a reinforced drive shaft and a self-locking nut for the drive shaft's connecting bolt has improved the durability of the drive system.



Hydraulic System Action Time: 9.5 seconds

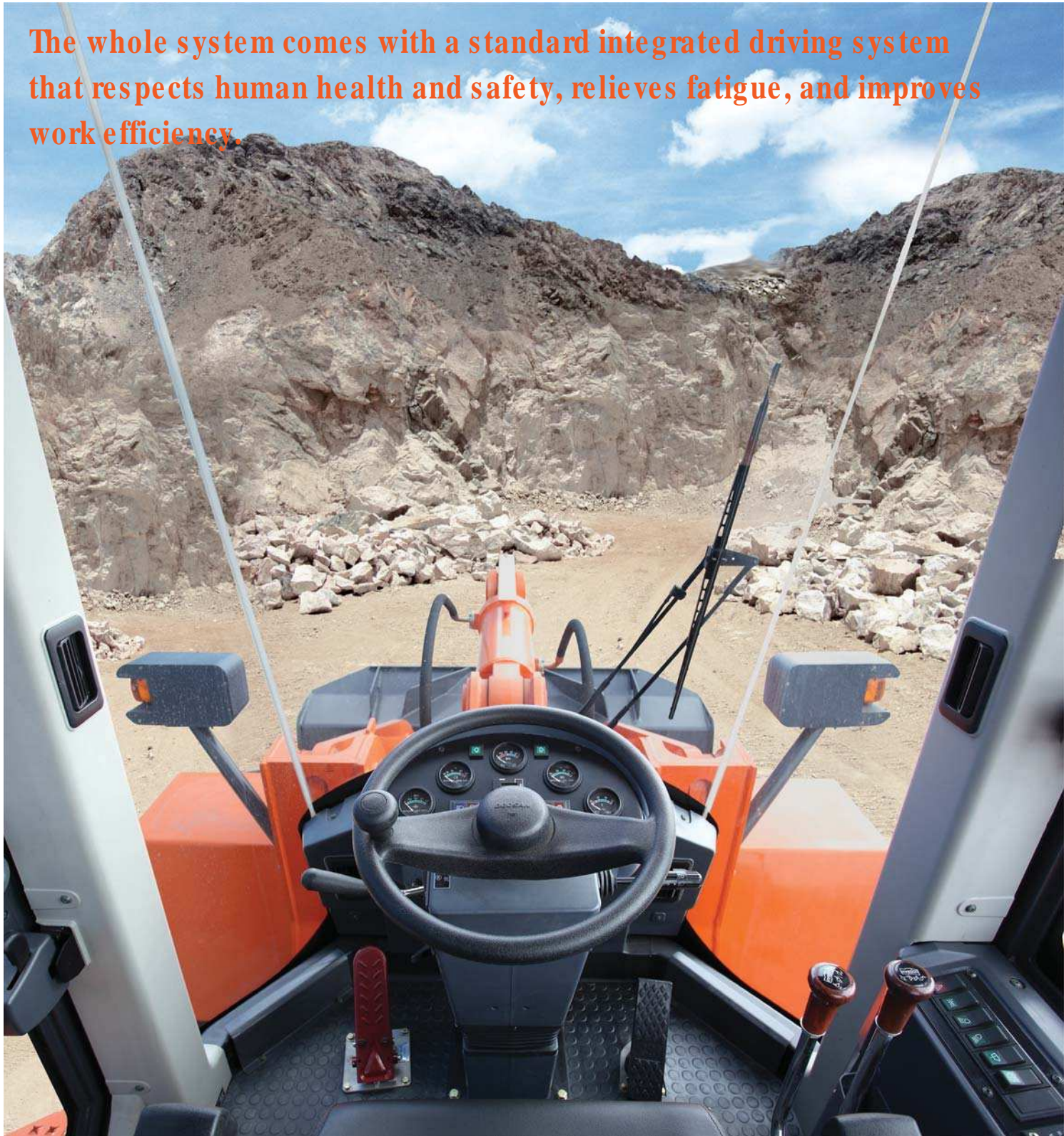
The sum total of the times of the three actions (lifting 5.5s, dumping 1.2s, lowering 2.8s) is 9.5s, which is much faster than the industry level, leading to a shorter cycle operation time and greater efficiency.

Comfort Technology that Respects Human Health and Safety

Cab Vision

DISD's New Full Vision Cab adopts Korean technology. The viewpoint has been moved forward and the front visual field has been broadened by 25%, while the installation of high-performance damping material guarantees superior sealing, sound insulation, shock absorption effects.

The whole system comes with a standard integrated driving system that respects human health and safety, relieves fatigue, and improves work efficiency.



The upgraded SD300N model guides operations, improves work efficiency, relieves fatigue, and is operated more comfortably and easily. The operating environment in the cab boasts an optimized ergonomic design, has plenty of space and a good visual field, and delivers safe and reliable protection on the basis of a people-oriented conception.



Cab

The cab's interior features an ergonomic design, a super-large driving space, wider front and rear visual fields, a user-friendly design for easier operability, and industry-leading driving comfort. A new model of shock pad is used to provide stronger durability and reduced shock and noise, effectively relieving the driver's fatigue.



SD 300N



Adjustable Steering Gear

Deluxe Seat

High back, deep-seated position, dual handrails and multi-level spring shock absorption guarantee an ultra-comfortable deluxe seat.

Adjustable Handrails



Shock Pad

A new model of shock pad is used to provide stronger durability and reduced shock and noise, effectively relieving the driver's fatigue.



Entertainment System

High-quality audio entertainment systems (MP3, radio) create a pleasant and relaxed work environment. A USB port is also available for charging mobile phones.

Maintenance Convenience

Professional and Technical Services for Customers



Easier Replacement

The use of quick-change brake discs allows the user to check brake pads for excessive wear at any time and change the brake pads more easily without needing to remove the tires.





All-metal hood, greater durability



Rear door opening angle increased up to 65°, making engine and radiator maintenance more convenient.



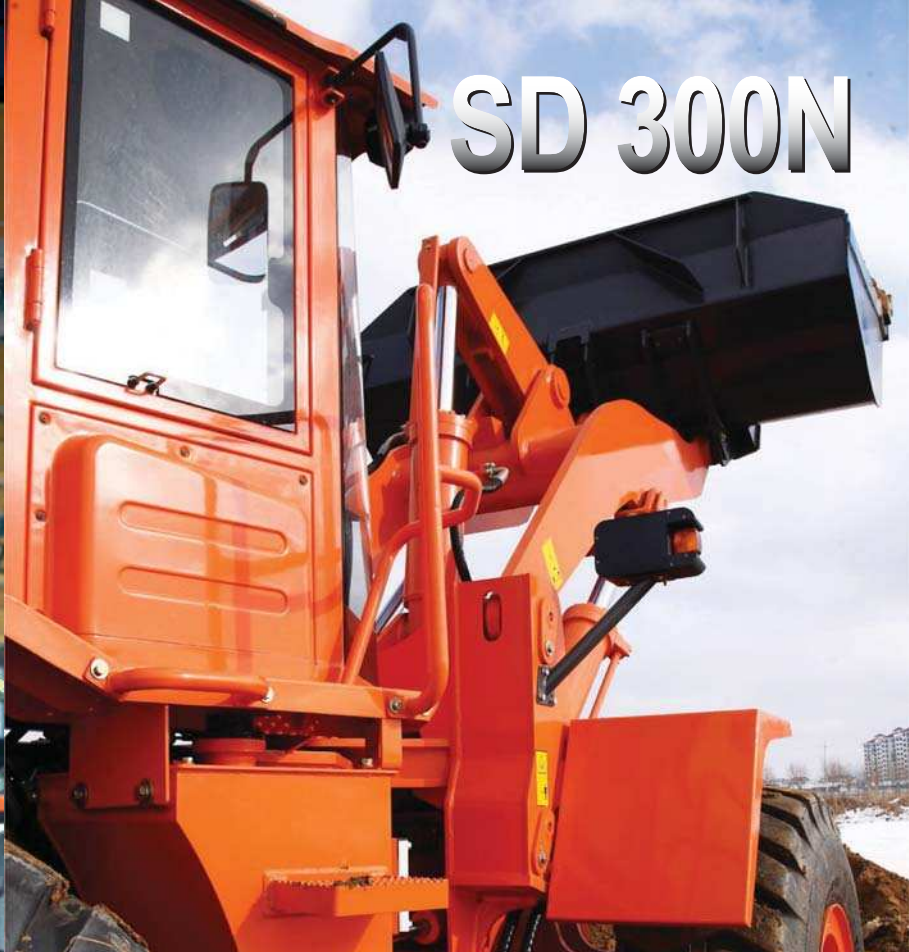
The booster pump delivers a higher augmented-thrust ratio, more stable braking performance, and more convenient daily maintenance thanks to its being mounted on the body's side.



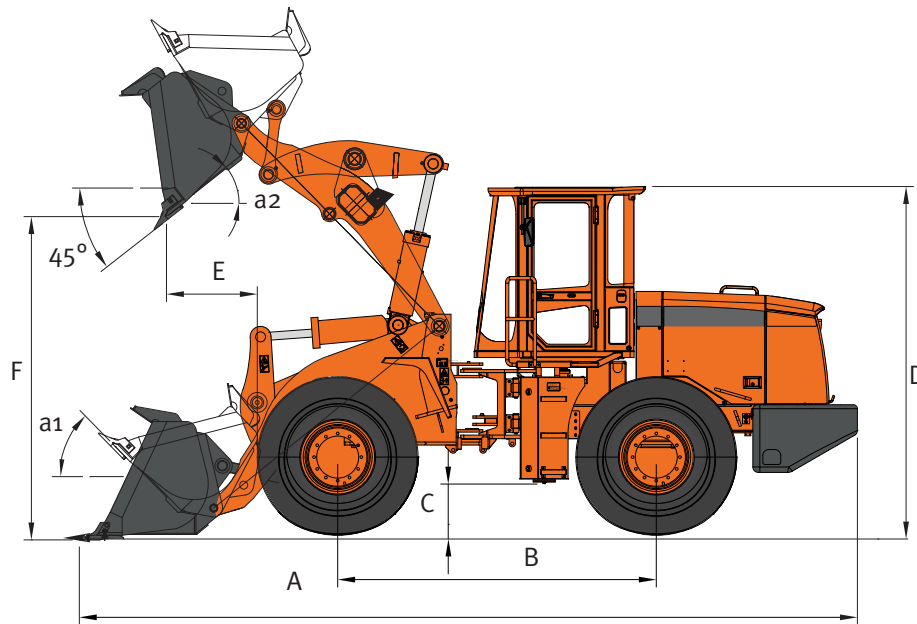
Both sides of the hood can be side-opened.

DISD uses advanced numerical control machinery, strict Korean standard quality control processes, and smoke-free, dust-free and non-toxic assembly workshop to ensure high product quality.





Technical Specifications



A	7,780mm
B	2,900mm
C	480mm
D	3,470mm
E	1,210mm
F	3,160mm
a1	50.6°
a2	48°

General parameters

Bucket capacity	2.7m ³
Operating weight	16,500KG±200KG
Overall length×width×height (mm)	7,780×2,992×3,470
Rated load	5,000KG
Wheelbase	2,900mm
Tread	2,150mm
Ground clearance	480mm

Transmission system

Torque converter	Twin turbo
Gear box	Planetary gear shift
	Multiple disc clutch
	Anti-shock power shift
	II
	I
	0-38.4km/hr
	Forward
	1-12.2km/hr
	Backward
Drive form	Four-wheel drive
Rear axle swing angle	11°
Tire	23.5-25-16PR
Max. traction force	164KN
Max. climb angle	30°
Max. steering angle	36°
Min. turning radius	6,678mm

Engine

Model	Weichai Steyr engine WD10G220E23 (turbocharged)
Rated power	162KW
Rated speed	2,000rpm
Number of cylinders/bores/strokes	6/12/130
Displacement	9.7L
Max. torque	900N.m/1,300-1,500rpm

Optional items of equipment

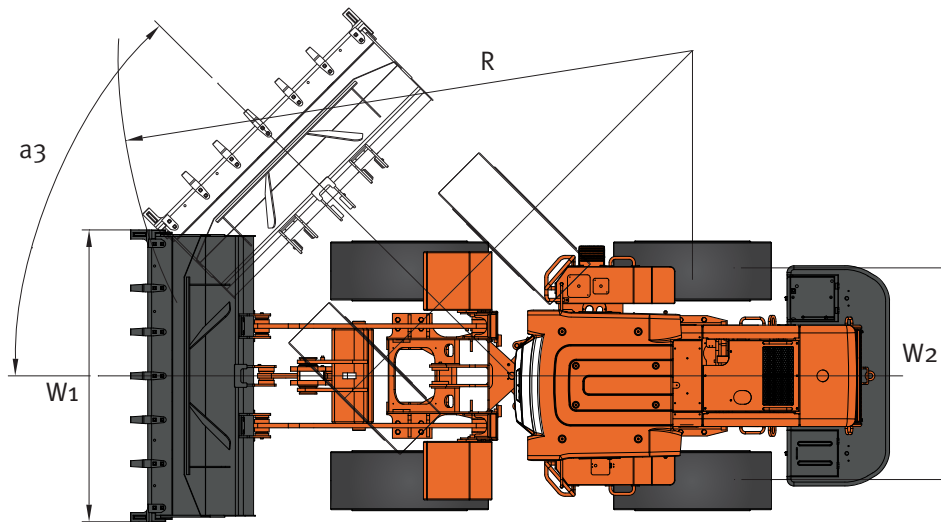
Bucket	3.0m ³
Enlarged coal bucket	4.0m ³
Extended arm (dump height)	3,430mm
Large-capacity air-conditioning	2.2m ³
Timber grapples	

Capacity

Fuel tank capacity	270L
Hydraulic oil tank capacity	260L
Engine oil	20L
Gear box oil	45L
Drive axle oil (front/rear)	27/27

Working device

Max. dump height	3,160mm
Dump reach	1,330
Max. dump angle	48°
Max. breakout force	160KN



W1	2,992mm
W2	2,150mm
R	6,678mm
a3	36°

Hydraulic system

Pump type
Pump displacement
System operating pressure
Sum total of time of three actions

Gear pump
100mL/r
17MPa

Noise

Noise at driving position
Machine exterior radiated noise

≤85dB(A)
≤112dB(A)

Lifting	Dumping	Lowering	Total
5.5s	1.2 s	2.8 s	9.5 s

Loading Material Unit Weight (Please determine the precise loading material weight according to the densities of the different materials given in the Table.)

Material Name		Density Kg/m3
Rubble		1,600
Mine refuse		650
Clay	Dry excavated	1,485
	Wet excavated	1,725
	Natural	1,650
Clay and gravel	Dry	1,185
	Wet	1,650
Coal	Smoke-free raw coal	1,190
	Smoke raw coal	950
Weathered granite	75% rock,25% soil	1,955
	50% rock,50% soil	1,725
	25% rock,75% soil	1,585
Gravel	Pit gravel	1,900
	Dry	1,485
	Dry(1/4" -2")	1,650
	Wet(1/4" -2")	2,015

Material Name		Density Kg/m3
Soil	Dry	1,550
	Wet	1,725
	Fine clay	1,125
	Tight	1,840
	Soft slurry	1,730
	Dry compacted soil	1,520
Granite	Crushed	1,650
	Solid	2,800
Plaster	Crushed	1,810
	Crushed	1,600
	Solid	2,780
Limestone	Crushed	1,550
	Solid	2,600
Peat coal	Dry	415
	Wet	1,125
Alumina		1,425

Material Name		Density Kg/m ³
Sand rock	Crushed	1,550
	Solid	2,300
Sand	Loose and dry	1,440
	Slightly wet	1,680
	Wet	1,850
	Compacted wet sand	1,850
Sand and gravel	Dry	1,730
	Wet	2,000
Furnace cinders	Crushed	1,760
	Solid	2,100
Trappide	Crushed	1,740
	Solid	2,880
Hematite		2,460
Magnetite		2,780
Iron pyrites		2,580
Taconite		2,800



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