

DOOSAN

Construction Equipment

DL320A-7M
DL320-7M

Powered by **Innovation**

Certain specification(s) are based on engineering calculations and are not actual measurements. Specification(s) are provided for comparison purposes only and are subject to change without notice. Specification(s) for your individual Doosan equipment will vary based on normal variations in design, manufacturing, operating conditions, and other factors. Pictures of Doosan units may show other than standard equipment.

DOOSAN

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DIPBE-00-2109

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Photos may include optional equipment

ALL NEW AND FULLY LOADED

DL320A-7M

Meet the New Generation of Wheel Loader

Mech. Engine



Dominate job sites with the enhanced productivity and solid durability of Doosan's new wheel loader.

Now we've reached the next phase of the new generation, -7M Series. We proudly introduce our new DL320A-7M, completely renewed first and last. It came out. Came out with more advanced technology combined with dynamic and iconic design.

What do you value most? Power, reliability, efficiency or comfort? Don't have to choose. DL320A-7M considered all sides. Its vigorous yet refined design implies every value DL320A-7M represents. Traditional craftsmanship with cutting-edge technology, rugged to its core, and yet so sophisticated, powerful yet efficient, untamed but you have full controllability.

Reborn with features, intuitive and touching than ever. Experience all the virtues merged in this equipment.

Maximize your profits and take charge of the future.

PERFORMANCE WITHOUT COMPROMISE

Enlarged bucket, upgraded digging power, more load capabilities embodied in thoroughly reformed structure

ALL NEW DYNAMIC DESIGN WITH COMFORT

Dynamic and refined styling. All new exterior design, stylish yet functional. Spacious cabin equipped with more intuitive features than ever

PROVEN QUALITY WITH ENHANCED DURABILITY

Thoroughly reinforced frames and structures, all key components meet the advanced new Doosan quality standard

RELIABLE AND EASY TO MAINTAIN

Upgraded DoosanCONNECT provides fuel consumption data, error code, parts replacement interval information. Via DoosanCONNECT service, you can always monitor the operating data, anytime or anywhere

Photos may include optional equipment

SETTING NEW STANDARDS

DL320-7M,
A real workhorse for every construction site
Elec. Engine



Photos may include optional equipment

Designed for long term, all-round performance For all those who constantly expect more

Never before, have traditional craftsmanship and forces of innovation coexisted so closely. A new milestone on construction equipment era, 'The-7M series'. As one of the family of 'The New-7M series', more intelligent and efficient than ever, 'DL320-7M' takes the next step to make your business even better.

Progress and safety, perfection and innovation, performance and efficiency. All of virtues which you connected with Doosan products. We reinterpreted these values all in new DL320-7M. It is designed and engineered with concerns of productivity, efficiency, and even environmental friendliness.

Suitable for light construction, loading and distribution, even on mining and quarry jobs. Maximum versatility for different terrains and operations enabled by its various custom-tailored attachments. Apply your specific requirements on the built up on the experience and expertise of Doosan.

Already exceeding all the expectations set high, we are ready to see even more greater frontier of possibilities.

DL320-7M. It is braced for another round.

Pave the way for profit in your business and take charge of the future

THE BENCHMARK FOR EFFICIENCY AND POWER

Equipped with a powerful engine and most competitive tuning technologies to reach the best productivity. Lockup option applied on torque converter to fully use the effective engine power, to optimize fuel consumption and reduces operating costs. Incorporates LS system on hydraulic components and working mode, optimized to constantly adjust to changing working conditions and load capacity. Adjusts the mode depending on the working situation, for either fuel efficiency or performance.

AND VERSATILITY FOR ALL

To fulfill every person who has different requirements and working places DL320-7M is equipped with various attachment options. Customized options including quick coupler piping, aggregated bucket line and various counterweights. Mix and match to make your own equipment, for the ease of operation and productivity on any jobsite.

ALL COMBINED IN NEW DYNAMIC DESIGN WITH COMFORT

All new exterior design with dynamic and refined styling, stylish yet functional. Spacious cabin equipped with more intuitive features than ever. Arrangement of the controls, within optimum reach of the driver. The comfortable moving office which has been adapted to users' needs.

WITH THE RESPECT FOR THE ENVIRONMENT

Doosan engine provides the power you need while still meeting Tier-3 environmental regulations. Gain more while reducing your carbon footprint. Environmentally conscious, cost-efficient combined in various tuning techniques and engine. The latest generation of automatic power management settings let you switch the parameters with lower transmission shift intervals.

WE ARE BACK WITH NEW FEATURES

All the Nice features of Previous Model
Bodily Succeeded, Even Nicer Things to Come.

CABIN VISIBILITY

Improved visibility to the Left and right bottom section of the front windshield for easy positioning of front wheels.

INCREASED FRONT HINGE HEIGHT

Improved hinge height reaching 4,170mm, highest among its class.

ENHANCED COUNTERWEIGHT

Reinforced standard counterweight with additional counterweight option.

LARGER STANDARD BUCKET CAPACITY

Bucket capacity increased by 10%, the best in its class.

5-GEAR LOCKUP TRANSMISSION OPTION/LOCKUP OPTION (DL320-7M)

Featured with a torque converter lockup. Being activated, the engine automatically connected directly to the transmission. The transmission can receive the entire engine power without hydraulic slip.

LS SYSTEM (DL320-7M)

LS system helps controlling hydraulic components through the electronic sensor, regarding on changing working conditions and load capacity. Also act on steering controllability improvement in boom and arm.

DOOSANCONNECT® TELEMATICS SERVICE (OPTIONAL)

Offering 'preventive maintenance service' based on machine operating data. Providing an expert level consultation to dealers. Functioning as fleet management tool for the customers.

NEW CLUSTER AND NEW KEYPAD

Intuitive gauge panel and keypad enable easy access to machine settings and maintenance data. All switches and operating mechanism integrated to improve operational convenience.

AUTOMATIC REVERSE FAN (DL320-7M STANDARD, DL320A-7M OPTIONAL)

Reversible functionality of the fan, which blows air in the opposite direction, allows self-cleaning of the cooling units.

ENHANCED LIS (LOAD ISOLATION SYSTEM) (OPTIONAL)

LIS Absorbs the impact on the lifting arm, cutting off the shock not to be transferred to cabin and body. Enhancing the balance, productivity and operator comfort.

NEW 8-INCH MONITOR FOR REAR-VIEW CAMERA (OPTIONAL)

Large and bright LCD monitor to view rear surroundings for safe operation. Wide angle Rear-view camera integrated into the radiator grill, offering seamless design and protection.

LSD (LIMITED SLIP DIFFERENTIAL)/HD (HEAVY DUTY) DIFFERENTIAL OPTION

Various axle option available for different terrain conditions to meet your needs.



Photos may include optional equipment

BORN TO WORK, CONSIDER IT DONE.

Enlarged bucket, upgraded digging power, more load capabilities embodied in thoroughly reformed structure

Sometimes, productivity means much more than mere load capacities. DL320A-7M and DL320-7M lives up to all of your needs. Robust and multi-purposed, provide you unrivaled power, high load capability and mobility yet still capturing detailed controllability. Engine power, digging power and lifting capacity all upgraded to multiply productivity. Designed to complement each other, enhancements also contribute to low fuel consumption.

Accurate control in grading and combined operations. Benefit from easier movement when traveling and lifting simultaneously. Stability and mobility also reinforced further by LSD (Limited-Slip Differentials) lock, being applied as a standard equipment. To help you work more efficiently, you can select working modes and power modes to fit your work style. The pinnacle of modern technology provides dominant productivity.

5-GEAR LOCKUP TRANSMISSION OPTION LOCKUP OPTION (DL320-7M)

DL320-7M is featured with a torque converter lockup option. Being activated, the engine automatically connected directly to the transmission. Combined with lockup option the transmission can receive the entire engine power without hydraulic slip. Shifts depending on speed and travel resistance.

LS HYDRAULIC SYSTEM (DL320-7M)

LS system helps controlling hydraulic components through the electronic sensor, regarding on changing working conditions and load capacity. Also act on steering controllability improvement in boom and an arm. Provides faster response and reduces fuel consumption.



LARGER BUCKET CAPACITY

Bucket capacity increased by 10%. Added up to be 3.3m³ (BOT), the best in its class. Carry 10% increased volume over the predecessor.

LONGER WHEELBASE

Wheelbase also increased by 100mm than previous one. Stability and tipping load increased.

INCREASED FRONT HINGE HEIGHT

Front hinge length heightens about 190mm than previous model. Reaching 4,170mm. Optimized in loading operation, affording sufficient clearance when loading on truck. Resulting in significant progress in convenience and productivity.

BETTER WEIGHT DISTRIBUTION

Heavier standard counterweight structure stably controls the enlarged bucket. Excellent traction power offered by Optimum weight distribution. Additional counterweight supplied for options targeting the customers who need more tipping load.

IMPROVED LIS (LOAD ISOLATION SYSTEM)

In loaded traveling, the impact on the front could be transferred to the body, may give rise to equipment damage and driver uncomfortableness. LIS option absorbs tremor and minimizes swaying movement of lifting arm while the equipment carries the load. Ultimately enhancing the durability of front structure and operator's comfort.



DOOSAN "DE08" ENGINE (DL320A-7M)

Doosan products gives high performance through inhouse engine. Outputs of 156 kw, which is highest in class, and impressive torque enables to precisely deliver the power you need. Our many years of experience in engine design and production have resulted in both efficient and powerful engine that delivers maximum productivity and profitability.



DOOSAN "DL08" ENGINE (DL320-7M)

Powerful, economical, and even reliable. The efficient Doosan in-house engine will assure you a high performance with low fuel consumption. The 6-cylinder engine delivers power up to 172 kw. High power and wide torque range at low RPM, which also reduces the strain on the clutch and ensures low transmission.



FULL AUTO TRANSMISSION

The electronic powershift transmission is particularly smooth. Gear ratios perfectly spaced to give optimal speed. Giving comfort and delivering excellent traction in every working condition. Built-in electronic controls enhancing productivity and durability. Transmission has three modes of operation

- Manual - Automatic (automatic shift for all gears)
- Semi- Automatic (automatic with a "kick down" for first gear)

OPTIONS AT YOUR FINGERTIPS

Attachments Tailored to You

Selecting the right attachment determines the productivity of your wheel loader. To help you find the optimum productivity, Doosan provides a range of options ready to fit the way you work.

Including bucket and counterweight options, all attachments are easily adaptable for various tasks. Specialized in each of the needed option including rehandling, extraction, truck loading or any other application. As an integrated part of the wheel loader, all attachments will effectively perform a variety of tasks and increase your productivity. Thoughtfully curated option packages ready for any kind of tasks and environment.

AGGREGATE BUCKET OPTION

Fortified bucket options for handling aggregate material.

DIVERSIFICATION OF ADDITIONAL COUNTERWEIGHT OPTION

200 / 300 / 400 kg Additional counterweight can be assembled with standard counterweight. Increases tipping load of the machine to raise.

HIGH LIFT OPTION

High Lift is equipped besides Standard Lift. Ideal for more lift height.

QUICK COUPLER PIPING OPTION

Add piping, valve and switch for quick coupler. Useful in quick transition of further attachments. Designed intuitively to use a quick coupler easily.

SPARK ARRESTOR OPTION

The optional spark arrestor prevents the exhaust from igniting in explosive atmospheres, such as forestry environment.



BUILT TO LAST

NEW DL320A-7M and DL320-7M Reborn with Single Platform, Verified in Global Market

You need an equipment to count on. At Doosan, we put durability and reliability at the core of our machines' development. Our materials and structures undergo stringent testing in strength and resilience, under the most extreme conditions.

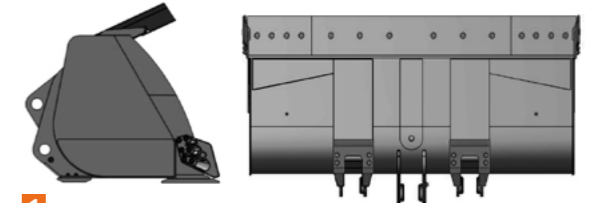
Reinforcement of overall frames by applying highly durable materials to structures. The most updated and proved Doosan single platform was applied, which has been proved in diverse global market. All combined to increase the life of vital components and reduce operating costs.

Work energetically with carefree quality wheel loader, whatever the environment is, come rain or shine.



1. NEW AGGREGATE BUCKET

The newly added aggregate bucket boasts 7.6% greater fill factor compared to general purpose bucket. With replaceable side cutters and bottom wear plates, you can maintain your bucket at top notch condition. In addition, spill guard prevents the material from falling over to the bucket cylinder.



1

2. SINTERED TYPE BRAKE DISC

Paper type brake disc changed to sintered type. Axle endurance figure enhanced with the compact sintered type disc. Besides using semipermanent material, replacement cycle of maintenance components extended. Cutting down the machine downtime and ensures long hours of operation.



2

3. RADIATOR GRILL (STEEL STRUCTURE)

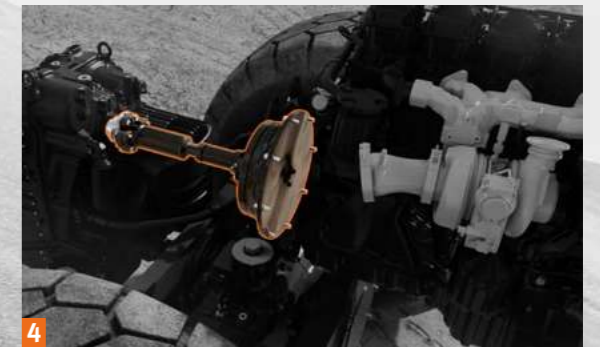
The radiator grill with its aerodynamic steel structure increases air flow which facilitates cooling and the maintenance process.



3

4. ENHANCED TRANSMISSION DAMPER

Enhanced performance of Transmission damper. Quality improvement in both equipment serves low noise and vibration level, during travelling.



4

5. PROPELLER SHAFT

A protective cover has been installed to protect the oil seal from dust, foreign objects and premature wear. Robust steel suspension provides excellent transmission of power and ensures reliable stability.



5

6. IMPROVE ENGINE DURABILITY BY TECHNOLOGICAL IMPLEMENT

Water separator in fuel to prevent engine damage. Large capacity forced air cleaner removes over 99% of airborne particles, reducing the risk of engine contamination and lengthen the cartridge change intervals.



6

7. APPLIED MORE RIGOROUS QUALITY STANDARD

All key components meet the increased new quality standard. Applying Doosan single platform, which verified in advanced market.



HIGH COMFORT WITH ALL NEW STYLE

Practicality perfected by craftmanship

Every inch of the newly designed DL320A-7M and DL320-7M in and out details reflect our uncompromisingly high standards of quality. Enhance your operational efficiency through refined interior. Spacious Cab equipped with new gauge panel, keypad and thumbwheel joystick to ensure intuitive machine controllability. Air conditioning system and overall enhanced accessories offered for operator comfort.

From radiator, grill, top cover to side door, contour of DL320A-7M and DL320-7M embodies dynamic character line, symbolizing vitality and power. Contrast color brings out a distinctive impression, coexisting with sleek tail pipe and logo details. Form inspired by function, perfected by craftsmanship. Technology blend in with artistic touch to create an incomparable operational experience. Everywhere you gaze, there's a detail we made.

SPACIOUS CABIN COMFORT

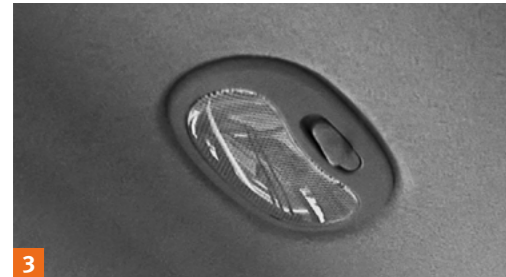
Refined interior with enhanced legroom and storage space guarantees a serene ride to you. Equipped with high-class designed upholstery and thoroughly changed comfort accessories.

SMALL DETAILS ADD THE FEELING OF REFINEMENT

Ergonomically re-designed brake pedal and non-slip floor mat equipped. Heating and ventilation, Air conditioning system upgraded for pleasant environment. USB charger and sunglass case is also equipped for additional comfort. Rear sun visor is also equipped for UV protection.



2



3



4



5



6



7

1. ALL AROUND VISIBILITY

Enlarged front windshield assures best possible all-around visibility. Panoramic cabin windows and adjustable seat position assists on safety and controllability promotion via enhanced lower part of visibility on side position. In crowded city streets or in hazardous construction workplace, operator can get better control and command of surroundings.

2. ERGONOMICALLY DESIGNED WORK PEDAL

Ergonomically designed Work pedals placed at both ends. Pedal angle adjusted to relieve the pressure on ankle and joints, reducing fatigue and to lessen the load of operator.

3. CABIN BOOK LAMP

Book lamp placed near the cabin door to secure operator's visibility by preventing the shadow. This new book lamp contributes to enhanced safety through improved illumination of the way. Enhances driving comfort and safety.

4. CENTRAL GAUGE PANEL

A new gauge panel put essential information right in front of the driver. The compact central monitor panel allows the operator the perfect overview of the machine status and warning lights at a single glance.

5. THUMBWHEEL JOYSTICK

Joystick enables united and intuitive control of your wheel loader.

6. SWITCH PANEL / KEYPAD

The ergonomically laid out switch panel in line with the natural movements of the body allows for convenient operation.

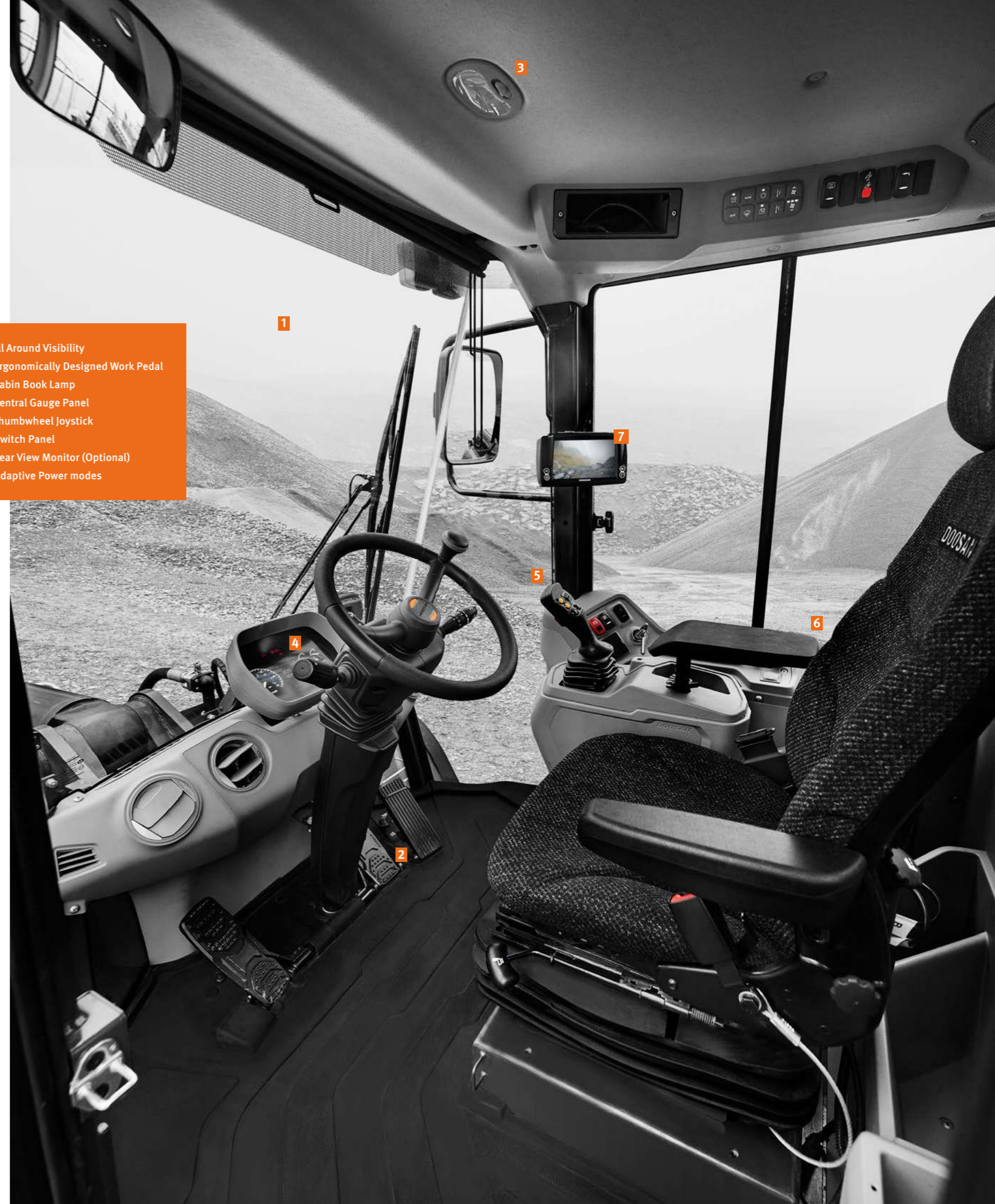
7. REAR VIEW MONITOR (OPTIONAL)

Optional rear-view camera keep watch in ways beyond operator's sight. LED lights attached on each side for the clear identification.

8. ADAPTIVE POWER MODES

Three different power modes give you precise control over the powertrain. Adjust the mode depending on the working situation, for either fuel efficiency or performance, with only a few taps.

- 1. All Around Visibility
- 2. Ergonomically Designed Work Pedal
- 3. Cabin Book Lamp
- 4. Central Gauge Panel
- 5. Thumbwheel Joystick
- 6. Switch Panel
- 7. Rear View Monitor (Optional)
- 8. Adaptive Power modes



RELIABLE AND EASY TO MAINTAIN

Keep Up the Good Work, Tools are in Good Hands.

Maintain this superior equipment as the way it was. DL320A-7M and DL320-7M facilitates equipment to operate in best condition at long intervals by ensuring short and easy maintenance procedure. You can get out of a laborious duty maintaining the equipment, hand your position over to machine itself. Optional AGS (Auto Greasing System) automatically lubricate while the machine is functioning.

Also, you don't have to take it all apart to carry out preparatory checks. To cut short on machine downtime, familiar and intuitive TMS service provides you the operational data in an hourly cycle. Via TMS, you can check most of the functions outside the equipment, at anytime and anywhere.

Thoroughly concentrate on your main work. Doosan helps you to turn a profit in long term.





1



2



3-4



5



6



7



8



9



10



1. CENTRAL JOINTS

Easy access on articulation joints, essential for the AGS (Auto Greasing System, Optional).

2. TRIPLE-ELEMENT AIR FILTER

The forced-air cleaner removes 99% of particles and is backed up by a turbo pre-filter. Cleaning and cartridge replacement are only needed at long intervals.

3. AUTOMATIC REVERSE FAN (DL320-7M STANDARD, DL320A-7M OPTIONAL)

Reversible functionality of the fan, which blows air in the opposite direction, allows self-cleaning of the cooling units. Reducing the risk of contamination and lengthen cleaning intervals.

4. SINGLE LAYER COOLING MODULE RADIATOR

Applied Single layer cooling module structure. Simple structure made easy for cleaning.

5. TRANSMISSION FILTER

Transmission filters located in easy reach. Like the rest of the machine's service components, can be checked from ground level.

6. REMOTE GREASING LUBRICATION PORTS

Front pins can be lubricated from the outside of the machine. Enable to skip the unnecessary procedure of struggling to reach the unapproachable lubrication ports, including crawling under the machine.

7. AGS, AUTO GREASING SYSTEM (OPTIONAL)

Automatic lubrication system controls greasing when the machine is in operation. Grease flows from pump to be proportionally supplied in needed points. Grease can be injected in any event, no matter the circumstances or environment. Resulting in more machine uptime and reduced stress for maintenance.

8. WET-TYPE PRE-CLEANER (OPTIONAL)

Wet-type pre-cleaner provides better filtering in dusty environments. Also increase maintenance interval resulting in more uptime.

9. WATER SEPARATOR

Water separator comes standard to allow the engine to perform at its' top condition regardless of fuel quality.

10. ENGINE OIL/COOLANT DRAIN PORT

Remote type drain ports makes it easier to replace engine oil/coolant.

11. HVAC FILTER ACCESS

Heating, Ventilation and Air Conditioning system is positioned on the outside of the cabin for easier maintenance. Allowing quick replacement on filters and enhancing daily maintenance check easier.

12. DOOSANCONNECT® TELEMATICS SERVICE (OPTIONAL)

Upgraded DoosanCONNECT provides fuel consumption data, error code, parts replacement interval information. Via DoosanCONNECT service, you can always monitor the operating data, anytime or anywhere. Optimized for routinely check to prevent machine troubles and down time.



DoosanCONNECT® Telematics Service (OPTIONAL)

TELECOMMUNICATIONS Data flow from machine to web



TELEMATICS SERVICE TERMINAL
Telematics Service terminal is installed to machine / connected to EPOS™



TELECOMMUNICATION
GPS, EPOS™ data is sent to designated server by GSM, Satellite telecommunication



DOOSAN TELEMATICS SERVICE WEB
Doosan, Dealer, Customer can easily monitor the GPS, EPOS™ data from Core Telematics Service web

TELEMATICS SERVICE BENEFITS Doosan and dealer support customers to improve work efficiency with timely and responsive services

CUSTOMER

- Improve work efficiency
- Timely and preventive service
- Improve operator's skills by comparing work pattern
- Manage fleet more effectively

DEALER

- Better service for customers
- Provide better quality of service
- Maintain machine value
- Better understanding of market needs

DOOSAN

- Responsive to customer's voice
- Utilize quality-related field data
- Apply customer's usage profile to developing new machine

FUNCTIONS(WEB/APP) Doosan Telematics Service provides various functions to support your great performance

- GPS
- Fuel information
- Preventive maintenance
- Operation hours
- Fault code/warning
- ADT Productivity
- Reports

FUNCTION	EXCAVATOR	WHEEL LOADER	ADT
GPS	All models	All models	All models
Operation hours	All models	All models	All models
Maintenance parts	All models	Tier 4 only	All models
Fuel information	All models	Tier 4 only	All models
Dump capacity	N/A	N/A	All models

GLOBAL PARTS NETWORK

QUALITY-PROVEN MAIN COMPONENTS

Doosan provides fast and precise worldwide delivery of genuine Doosan parts through its global PDC (parts distribution center) network.



GLOBAL NETWORK

The global network of the GPDC (Global Parts Distribution Center) maximizes its supply rate by making sure that each center is stockpiled with all the critical parts required for businesses in its area. The network also minimizes the time and costs required for parts delivery by positioning PDCs close to major markets around the world. Doosan PDCs communicate with customers in their time zone, informing them that they are open for operation, and deliver parts to them as early as possible.

THE GLOBAL PARTS DISTRIBUTION CENTER NETWORK

PDCs had been set up as shown below, including Mother PDC in Ansan, Korea. The nine other PDCs include one in China (Yantai), Four in USA (Seattle and Atlanta, Suwanee, Miami), two in Europe (Germany and the UK), one in the Middle East (Dubai) and one in Asia (Singapore).

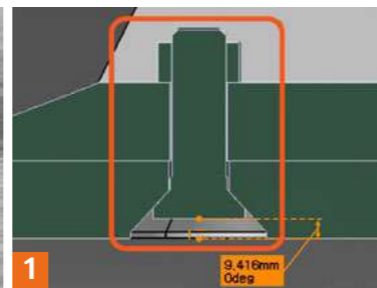
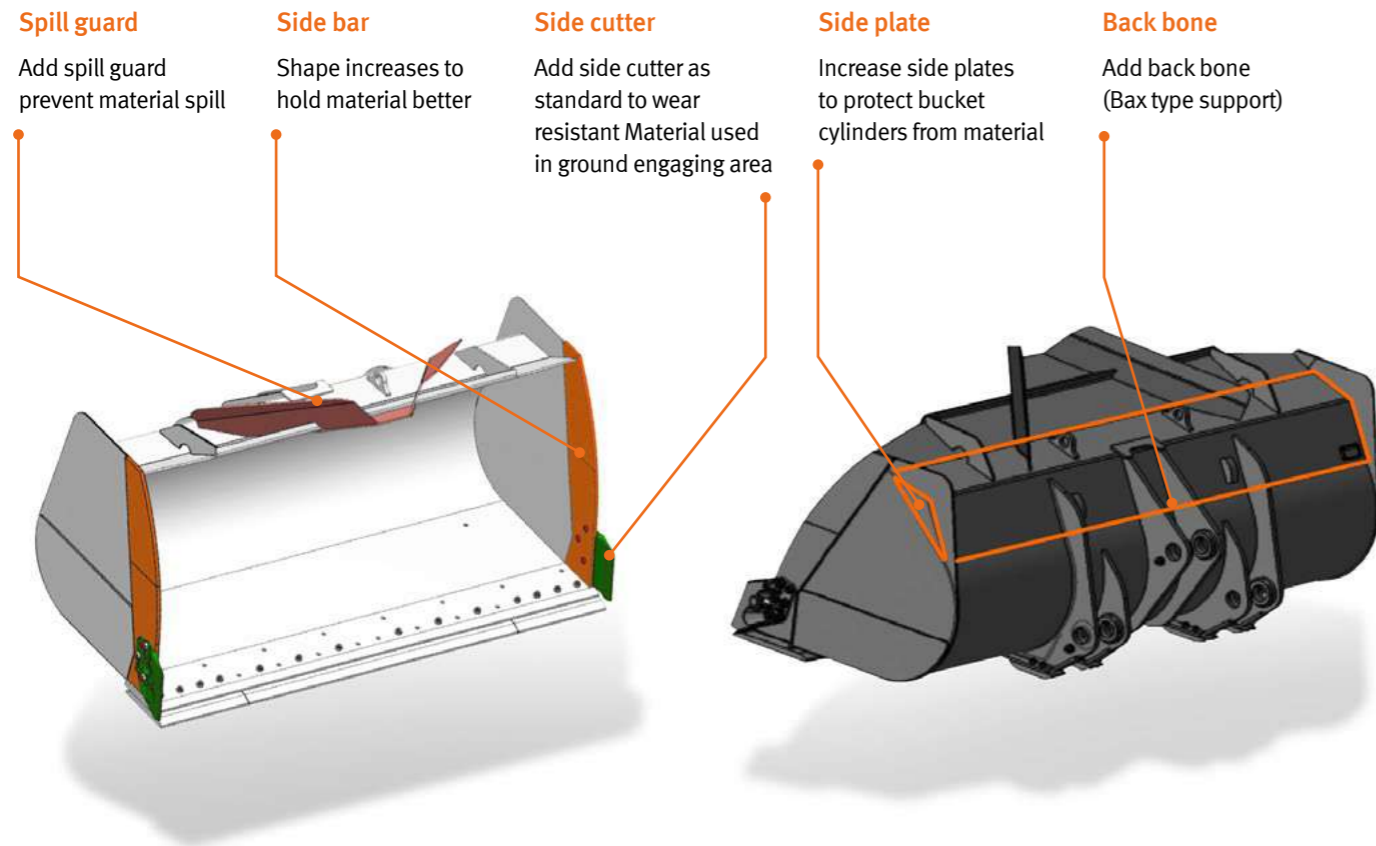


PDC BENEFIT

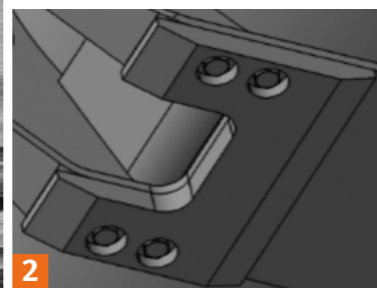
- Distribution Cost Reduction
- Maximum Parts supply rate
- Shortest distance/time parts delivery
- Real-time service support
- Minimum downtime

ATTACHMENTS

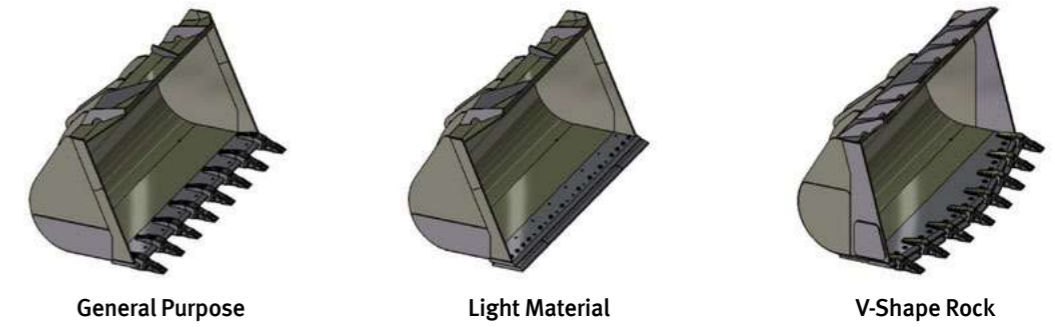
Aggregate bucket is the most commonly used bucket in the construction equipment market and is designed mainly for use in heavy construction but also used in low density mining and quarry application.



1
PLOW BOLT FOR CHANGEABLE PARTS
New plow bolt will be applied on tooth adaptor and cutting edge



2
CHANGEABLE BOTTOM PLATES
Operator can change wear plate easily



BUCKETS

	DLGP30	DLLM30	-
WEIGHT [kg]	1,350	1,850	-
CAPACITY [m ³]	3.0	6.0	-



QUICK COUPLER

	LQC30
WEIGHT [kg]	530



PALLET FORK

	DLPF30
WEIGHT [kg]	1,050
LENGTH [inch]	60
OPERATING WIDTH [mm]	600~2,160



LIFTING ARM

	DLLA30
WEIGHT [kg]	610
LOAD [kg] (REACH [m])	3,000 (3.6) / 2,000 (4.6) / 1,400 (5.8)



General Purpose

General purpose grapples is an all-round grapple for handling and sorting entire trees or for grabbing single stem.



Tropical

tropical timber grapples are very wide with two separate clamping arms to hold large, heavy items securely. principally intended for handling large diameter and high density tropical type timbers.



Sorting

sorting type grapple has relatively long and straight tines so the grapple can be easily filled when loading from stacks or sorting bunkers. Both the Unloading and the sorting grapple can be fitted with a hydraulic heel/kick out.

LOG GRAPPLE

	General Purpose	Tropical	Sorting
WEIGHT (kg)	1,700	1,850	1,700
LOG DIA. Ø (mm)	320	1,000	1,300

TECHNICAL SPECIFICATION (DL320A-7M)

ENGINE

The high performance Doosan DE08TIS 6 cylinder, direct injection, turbo charged, air-air intercooler engine offers low fuel consumption and low exhaust emissions, which are well below the requirements of the Phase II legislation

-GROSS SAE J1995

Rated Power

156 kW(209 HP) @ 2,100 rpm (SAE J1995, gross)
SAE J1349, net 156 kW (209 HP) @2,100 rpm

Max Torque

92 kgf.m (902 N.m) @ 1,300 rpm

Displacement

8,070 cc (492 cu.in)

Bore x stroke

Ø 111 x 139 mm

3 stages Air cleaner including a very efficient pre-cleaner, main and safety elements.

Hydraulically driven puller type fan with possibility of adjustment.

Battery

System voltage : 24 V

Quantity : 12 V x 2

Capacity (AMP) : 150 Ah

Starter power

24 V / 6.6 kW

Alternator output

24 V / 80 A

AXLES

The front and rear axles with planetary hub reductions are built on the base of very reputed components. Fitted as standard, the front and rear limited slip differentials, ensure the traction is optimal in all circumstances.

Type

Fully floating planetary-type

Limited slip Differential (front and rear)

30 %

Oscillation angle

+/- 12°

Brake

Dual circuit multi-plate wet discs.
Hydraulic actuation with pump and accumulator.
The sintered metal brake discs extended discs service intervals : increased three times
A spring applied and hydraulically released parking brake is mounted on the transmission shaft.

TRANSMISSION

“Full Power Shift” transmission. It can be used in manual or automatic modes.
This transmission is based on components having excellent worldwide reputations. It is equipped with a modulation system allowing soft gear shifting and inversion of travel direction. Safety devices also protect the transmission of bad operations. The gear and direction shifting is operated by a single lever to the left of the steering wheel. A travel direction control is also mounted on the hydraulic joystick. (Optional)
The transmission can be de-clutched by the operation of brake pedal to increase the power available to the hydraulic pumps. A safety device prevents the starting of the engine when not in neutral.

Torque converter

Type : Single stage, one phase,
Stall ratio : 3.01

Travel speed, kph

Forward : 6.7 · 12.9 · 24.5 · 36.7 (1 / 2 / 3 / 4)
Reverse : 7.1 · 13.6 · 25.6 (1 - 2 - 3)

HYDRAULIC SYSTEM

The hydraulic system uses tandem vane pumps with automatic wear compensation.

Pilot actuation with standard single lever.
Automatic arm kick-out is standard.
All of hydraulic lines are equipped with special seals (ORFS)

Max flow main

158.6 / 127.6 / 32.2 l/min (41.9 / 33.7 / 8.5 gal/min)

Working Pressure

206 bars

Pressure of the pilot circuit

33 bars

Filtration capacity on the return line

10 microns

Loading cycles time

Lifting speed (loaded) : 6.4 seconds
Dumping speed (loaded) : 1.8 seconds
Lowering speed (empty) : 3.4 seconds

OPERATOR'S CABIN

The modular cabin allows excellent visibility in all directions. The optimal ventilation is obtained by numerous ventilation outlets. Touch buttons control the air re-circulation air conditioning and heating systems. The air of the cabin is filtered.

All necessary information for the operator are centralized in front of operator.

The main functions are actuated via switches located on a console at the right of the operator.

Generous storage places are well located. The cabin, mounted on viscous element and equipped with an air suspended seat, offers a better comfort for the operator.

Access door : 1

Emergency exits : 2

The cabin conforms ROPS ISO 3471 and
FOPS : ISO 3449

Guaranteed external noise level Lwa
(following ISO 6395) 110 dB(A)

Guaranteed internal of cabin noise level Lpa
(following ISO 6396) 73 dB(A)

STEERING

The steering system is a load sensing type with a flow amplifier and a priority valve.

Steering angle

40°

Oil flow

127.6 l /min(38.3 gal/min) @ 2,000 rpm, high

Working pressure

210 bars

Steering cylinders (2)

bore x stroke : 80 x 443 mm
Emergency steering system with hydraulic pump driven by electric motor. (Optional)

LIFTING SYSTEM

The lifting system with two cylinders and Z configuration is designed for the toughest jobs. The breakout force is very important and the bucket movements are fast. The bucket angles are well kept in good positions on all the range of bucket movement.

Lifting cylinders (2)

bore x stroke : 160 x 800 mm

Bucket cylinders (1)

bore x stroke : 200 x 535 mm

MAINTENANCE

Maintenance is easy due to excellent access. The radiator fan swivels to aid cleaning. The transmission is electronically controlled. An error coding system allows easy diagnosis of the systems and proper intervention.

Engine (oil) - 24 ℓ (6.3 US gal)

Radiator (cooling liquid) - 45 ℓ (11.9 US gal)

Fuel - 291 ℓ (76.9 US gal)

Hydraulic oil - 173 ℓ (45.7 US gal) - ST

Gear box and torque converter - 42 ℓ (11.1 US gal)

Front axle - 35 ℓ (9.2 US gal)

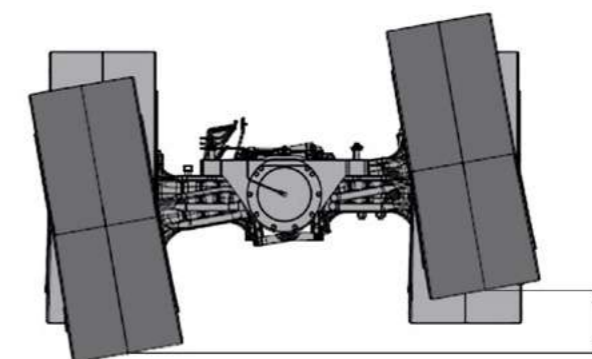
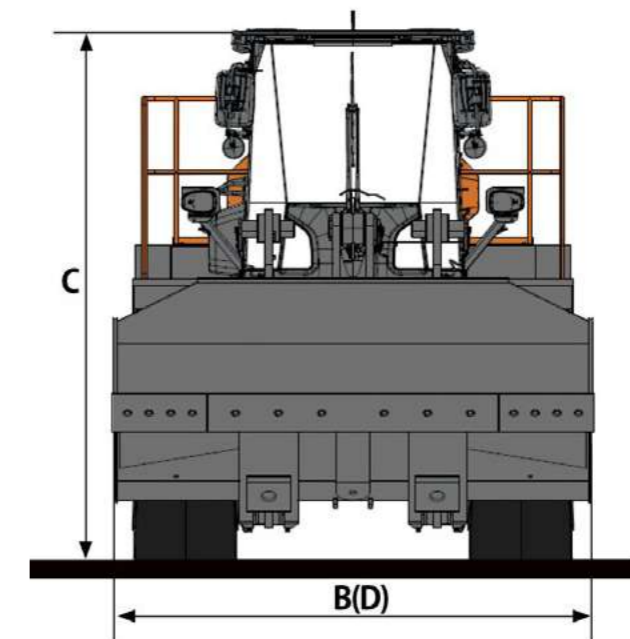
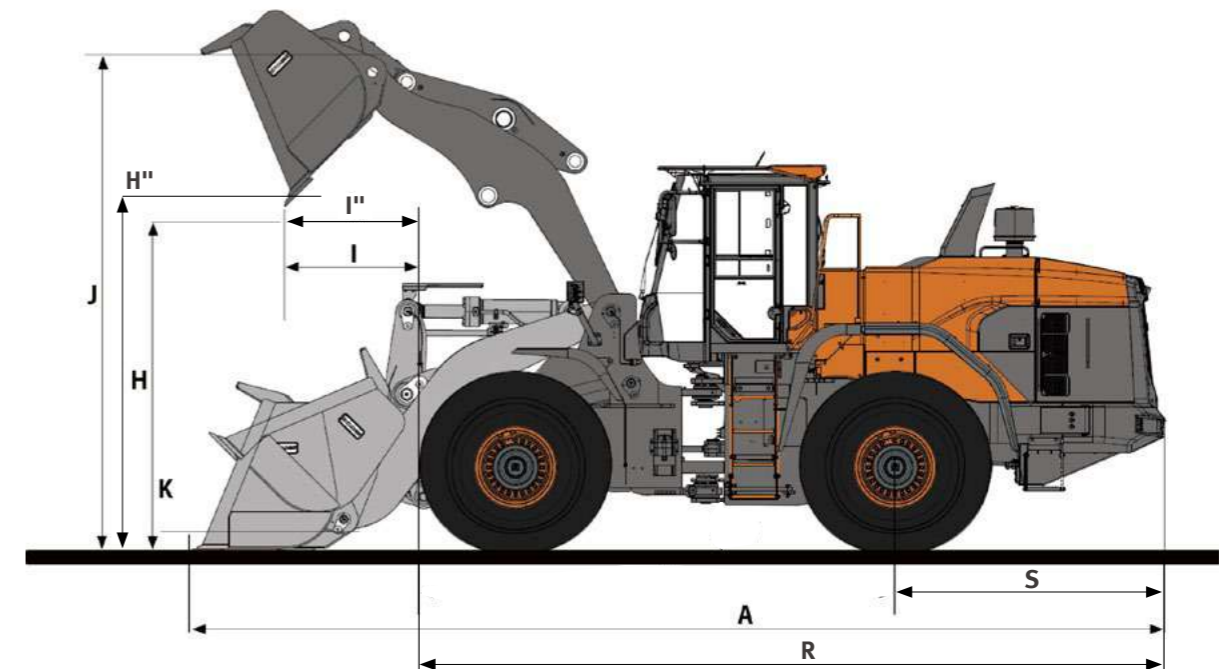
Rear axle - 35 ℓ (9.2 US gal)

OPERATIONAL DATA (DL320A-7M)

BUCKET TYPE		General purpose				Aggregate Handling						High Lift Arm	
BUCKET MOUNT		PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON		
Configuration	Unit	Teeth	Bolt-on edge	Teeth	Bolt-on edge	Bolt-on edge	segments edge	Bolt-on edge	segments edge	Bolt-on edge	segments edge		
Capacity heaped ISO/SAE	m ³	3.0	3.2	3.3	3.5	3.2	3.2	3.5	3.5	3.7	3.7		
Bucket width	D	mm	2,920	2,920	3,000	3,000	2,920	2,920	2,920	2,920	3,000	3,000	
Breakout force	kN	175	160	169	154	144	144	137	137	135	134	-4.0	
Static tipping load (straight)	kg	14,945	14,616	14,903	14,548	14,152	14,098	13,891	13,835	13,870	13,762	-3,859	
Static tipping load (at full turn)	kg	13,196	12,906	13,159	12,847	12,497	12,449	12,266	12,217	12,248	12,152	-3,408	
Dump height (at 45°) ¹⁾ (at fully raised)	H(H'')	mm	2,965	3,067	2,939	3,040	2,992	2,836	2,950	2,794	2,933	2,776	+524
Dump reach (at 45°) ¹⁾ (at fully raised)	I(I'')	mm	1,290	1,194	1,317	1,221	1,269	1,412	1,311	1,454	1,329	1,472	+205
Dump height (at max. dump) ¹⁾		mm	2,895	3,006	2,866	2,976	2,923	2,754	2,878	2,708	2,859	2,689	+486
Dump height (at max. dump) ⁰⁾		mm	1,169	1,083	1,193	1,108	1,151	1,278	1,189	1,315	1,204	1,332	+126
Digging depth		mm	89	89	89	89	89	89	89	89	89	89	148
Height at bucket pivot point	J	mm	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	+524
Max. tilt angle at carry position	K	deg	48	48	48	48	48	48	48	48	48	48	51
Max. tilt angle at fully raised	M	deg	64	64	64	64	64	64	64	64	64	64	63
Max. tilt angle on ground		deg	44	44	44	44	44	44	44	44	44	44	45
Max. tilt angle at max. reach		deg	65	65	65	65	65	65	65	65	65	65	63
Max. dump angle at max. reach		deg	71	71	71	71	71	71	77	71	71	71	66
Max. dump angle on ground		deg	75	75	75	75	75	75	75	75	75	75	72
Max. dump angle at fully raised	L	deg	45	45	45	45	45	45	45	45	45	45	45
External radius at bucket edge	Q	mm	6,625	6,565	6,670	6,615	6,595	6,660	6,610	6,675	6,655	6,720	+311
Ground Clearance at 12° oscillation	T	mm	402	402	402	402	402	402	402	402	402	402	402
Rear Axle to Counter weight	S	mm	2,208	2,208	2,208	2,208	2,208	2,208	2,208	2,208	2,208	2,208	2,208
Overall length without bucket	R	mm	6,120	6,120	6,120	6,120	6,120	6,120	6,120	6,120	6,120	6,120	+640
Overall length	A	mm	8,409	8,269	8,447	8,307	8,375	8,587	8,434	8,646	8,459	8,671	+640
Operating weight		kg	18,566	18,736	18,590	18,770	18,989	19,029	19,043	19,082	19,046	19,134	+317

1) Measured to the tip of the bucket teeth

DIMENSIONS (DL320A-7M)



STANDARD EQUIPMENT (DL320A-7M)

STANDARD EQUIPMENT

Engine

- DOOSAN DE08TIS Diesel engine
- Air cleaner - Double element cartridge + Cyclone filtration in prior stage
- Fuel filter - Main fuel filter and fuel pre-filter with water separator
- External drains for engine oil and coolant changes
- Hydraulic radiator fan
- Fuel filler pump

Hydraulic System

- Hydraulic control valve - 2 spool
- Hydraulic main pump - Triple tandem vane
- Hydraulic control levers
- Boom kick out - Automatic
- Bucket return to dig - Automatic

Cabin and Interior

- 12V power socket
- Double filtered air cab
- Air conditioner and heater with recirculation function
- Dual Cup holder
- USB Charging Port
- Tinted glasses
- Sunglass Case
- Floor mat
- AM/FM Radio + MP3(USB)
- Windshield washer front and rear
- Windshield wipers front and rear
- Cigarette lighter
- Multiple storage compartments
- Front/Rear Sun visor
- Glass antenna
- Seat - Mechanical suspension
- ROPS cabin - ISO 3471
- FOPS cabin - ISO 3449
- Adjustable steering column
- Rear view mirrors - Interior 1
- Rear view mirrors - Exterior 2

* Standard specification and options may vary by country.

** Specification is subject to change without prior notice for quality enhancement.

Electrical and lighting

- Battery cut-off switch
- Working light - Front 2 + Rear 2
- Driving light - Low and high beams
- Tail indicators - Stop, reversing lights
- Reversing alarm
- Electric horn
- Alternator - 24 V, 80 A
- Self-diagnostic system

Linkage

- Z-bar loader linkage

Drivetrain and Brake system

- Gear shift switch - Manual, Auto 1-4, Auto 2-4
- Kickdown and travelling direction selection
- Starting safety system
- Dual brake circuits with accumulator
- Dual service brake pedals
- Secondary brake system
- Parking brake - Electrical, hydraulic
- Differential - Limited slip

Steering system

- Load sensing steering system

External equipment

- Fender

OPTIONAL EQUIPMENT (DL320A-7M)

OPTIONAL EQUIPMENT

Some of these optional equipments may be standard in some markets. Some of these optional equipments cannot be available on some markets. You must check with the local Doosan dealer to know about the availability or to release the adaptation following the needs of the application.

Hydraulic System

- Hydraulic Oil - VG32 Cold Weather
- Hydraulic Oil - VG46 Normal Weather
- Hydraulic Oil - VG68 Tropical Weather
- Hydraulic control valve - 3 spool
- Load isolation system (LIS)
- Hydraulic control levers - Mono
- Hydraulic control levers - FNR
- Automatic reverse Fan
- Quick coupler piping and switch

Cabin and Interior

- Seat - Air suspension with heater
- Camera - Rear view

Electrical and lighting

- License lamp
- Beacon - Rotating
- LED working lamp
- Heated side mirrors

Linkage

- Z-bar high lift loader linkage

Drivetrain and Brake system

- LSD / HD Differential
- Thermostat

Steering system

- Emergency steering pump

External equipment

- Fender - Full fender + rubber protector
- Fender - Rubber protector
- Wheel chocks
- Anti-noise Kit
- Additional counterweight - 0.2 / 0.3 / 0.4 ton
- Tool Kit
- Wet-type pre-cleaner
- Spark arrestor
- AGS (Auto Greasing System)

TECHNICAL SPECIFICATION (DL320-7M)

ENGINE

The high performance Doosan DL08 6 cylinder, direct injection, turbo charged, air-air intercooler engine offers low fuel consumption and low exhaust emissions, which are well below the requirements of the Phase III legislation

-GROSS SAE J1995

Rated Power

172 kW(231 HP) @ 2,000 rpm (SAE J1995, gross)
SAE J1349, net 257 kW @1,800 rpm

Max Torque

118 kgf.m (1,157 N.m) @ 1,300 rpm

Displacement

7,640 cc (466 cu.in)

Bore x stroke

Ø 108 x 139 mm

3 stages Air cleaner including a very efficient pre-cleaner, main and safety elements.

Battery

System voltage : 24 V

Quantity : 12 V x 2

Capacity (AMP) : 150 Ah

Starter power

24 V / 6 kW

Alternator output

24 V / 80 A

AXLES

The front and rear axles with planetary hub reductions are built on the base of very reputed components. Fitted as standard, the front and rear limited slip differentials, ensure the traction is optimal in all circumstances.

Type

Fully floating planetary-type

Limited slip Differential (front and rear)

30 %

Oscillation angle

+/- 12°

Brake

Dual circuit multi-plate wet discs.
Hydraulic actuation with pump and accumulator.
The sintered metal brake discs extended discs service intervals : increased three times
A spring applied and hydraulically released parking brake is mounted on the transmission shaft.

TRANSMISSION

“Full Power Shift” transmission. It can be used in manual or automatic modes.
This transmission is based on components having excellent worldwide reputations. It is equipped with a modulation system allowing soft gear shifting and inversion of travel direction. Safety devices also protect the transmission of bad operations. The gear and direction shifting is operated by a single lever to the left of the steering wheel. A travel direction control is also mounted on the hydraulic joystick. (Optional)
The transmission can be de-clutched by the operation of brake pedal to increase the power available to the hydraulic pumps. A safety device prevents the starting of the engine when not in neutral.

Torque converter

Type : Single stage, one phase,
Stall ratio : 2.848

Travel speed, kph

Forward : 4 - 6.0 / 11.6 / 22.1 / 34.1 (1 / 2 / 3 / 4)
5 - 6.2 / 11.6 / 17.9 / 27.7 / 40 (1 / 2 / 3 / 4 / 5)
Reverse : 4 - 6.4 / 12.2 / 23.2 (1 / 2 / 3)
5 - 6.5 / 12.3 / 29.2 (1 / 2 / 3)

HYDRAULIC SYSTEM

The hydraulic system uses variable displacement axial piston pump.

Pilot actuation with standard single lever.
Automatic arm kick-out is standard.
All of hydraulic lines are equipped with special seals (ORFS)

Max flow main

140 / 140 / 56 l/min (37 / 37 / 14.8 gal/min)

Working Pressure

230 bars

Pressure of the pilot circuit

33 bars

Filtration capacity on the return line

10 microns

Loading cycles time

Lifting speed (loaded) : 5.9 seconds
Dumping speed (loaded) : 1.7 seconds
Lowering speed (empty) : 3.0 seconds

OPERATOR'S CABIN

The modular cabin allows excellent visibility in all directions. The optimal ventilation is obtained by numerous ventilation outlets. Touch buttons control the air re-circulation air conditioning and heating systems. The air of the cabin is filtered.

All necessary information for the operator are centralized in front of operator.

The main functions are actuated via switches located on a console at the right of the operator.

Generous storage places are well located. The cabin, mounted on viscous element and equipped with an air suspended seat, offers a better comfort for the operator.

Access door : 1

Emergency exits : 2

The cabin conforms ROPS ISO 3471 and
FOPS : ISO 3449

Guaranteed external noise level Lwa
(following ISO 6395) 105 dB(A)

Guaranteed internal of cabin noise level Lpa
(following ISO 6396) 70 dB(A)

STEERING

The steering system is a load sensing type with a flow amplifier and a priority valve.

Steering angle

40°

Oil flow

140 l /min(37 gal/min) @ 2,000 rpm, high

Working pressure

210 bars

Steering cylinders (2)

bore x stroke : 80 x 443 mm
Emergency steering system with hydraulic pump driven by electric motor. (Optional)

LIFTING SYSTEM

The lifting system with two cylinders and Z configuration is designed for the toughest jobs. The breakout force is very important and the bucket movements are fast. The bucket angles are well kept in good positions on all the range of bucket movement.

Lifting cylinders (2)

bore x stroke : 150 x 800 mm

Bucket cylinders (1)

bore x stroke : 190 x 535 mm

MAINTENANCE

Maintenance is easy due to excellent access. The radiator fan swivels to aid cleaning. The transmission is electronically controlled. An error coding system allows easy diagnosis of the systems and proper intervention.

Engine (oil) - 35 ℓ (9.2 US gal)

Radiator (cooling liquid) - 44 ℓ (11.6 US gal)

Fuel - 291 ℓ (76.9 US gal)

Hydraulic oil - 193 ℓ (51 US gal) - ST

Gear box and torque converter - 42 ℓ (11.1 US gal)

Front axle - 35 ℓ (9.2 US gal)

Rear axle - 35 ℓ (9.2 US gal)

OPERATIONAL DATA (DL320-7M)

BUCKET TYPE			General purpose			
BUCKET MOUNT			PIN ON	PIN ON	PIN ON	PIN ON
Configuration	Unit	Teeth	Bolt-on edge	Teeth	Bolt-on edge	
Capacity heaped ISO/SAE	m ³	3.0	3.2	3.3	3.5	
Bucket width	D mm	2,920	2,920	3,000	3,000	
Breakout force	kN	177	161	170	155	
Static tipping load (straight)	kg	15,271	14,835	14,710	14,814	
Static tipping load (at full turn)	kg	13,485	13,099	12,989	13,081	
Dump height (at 45°) ¹⁾ (at fully raised)	H(H") mm	2,965	3,067	2,939	3,040	
Dump reach (at 45°) ¹⁾ (at fully raised)	l(l") mm	1,290	1,194	1,317	1,221	
Dump height (at max. dump) (at max. reach) ¹⁾	mm	709	843	673	807	
Dump height (at max. dump) (at max. reach) ¹⁾	mm	1,513	1,471	1,526	1,484	
Digging depth	mm	89	89	89	89	
Height at bucket pivot point	J mm	4,170	4,170	4,170	4,170	
Max. tilt angle at carry position	K deg	48	48	48	48	
Max. tilt angle at fully raised	M deg	64	64	64	64	
Max. tilt angle on ground	deg	44	44	44	44	
Max. tilt angle at max. reach	deg	65	65	65	65	
Max. dump angle at max. reach	deg	71	71	71	71	
Max. dump angle on ground	deg	75	75	75	75	
Max. dump angle at fully raised	L deg	45	45	45	45	
External radius at bucket edge	Q mm	6,606	6,567	6,653	6,613	
Ground Clearance at 12° oscillation	T mm	402	402	402	402	
Rear Axle to Counter weight	S mm	2,208	2,208	2,208	2,208	
Overall length without bucket	R mm	6,120	6,120	6,120	6,120	
Overall length	A mm	8,347	8,207	8,385	8,245	
Operating weight	kg	18,752	19,050	18,939	19,080	

1) Measured to the tip of the bucket teeth

OPERATIONAL DATA (DL320-7M)

BUCKET TYPE			Aggregate Handling			
BUCKET MOUNT			PIN ON	PIN ON	PIN ON	PIN ON
Configuration	Unit	Bolt-on edge (MH)	Segment edge (MH)	Bolt-on edge (MH)	Segment edge (MH)	
Capacity heaped ISO/SAE	m ³	3.2	3.2	3.5	3.5	
Bucket width	D mm	2,920	2,920	2,920	2,920	
Breakout force	kN	146	145	138	138	
Static tipping load (straight)	kg	14,327	14,274	14,392	14,339	
Static tipping load (at full turn)	kg	12,651	12,605	12,708	12,661	
Dump height (at 45°) ¹⁾ (at fully raised)	H(H") mm	2,992	2,836	2,950	2,794	
Dump reach (at 45°) ¹⁾ (at fully raised)	l(l") mm	1,269	1,412	1,311	1,454	
Dump height (at max. dump) (at max. reach) ¹⁾	mm	742	539	686	483	
Dump height (at max. dump) (at max. reach) ¹⁾	mm	1,506	1,566	1,525	1,587	
Digging depth	mm	89	89	89	89	
Height at bucket pivot point	J mm	4,170	4,170	4,170	4,170	
Max. tilt angle at carry position	K deg	48	48	48	48	
Max. tilt angle at fully raised	M deg	64	64	64	64	
Max. tilt angle on ground	deg	44	44	44	44	
Max. tilt angle at max. reach	deg	65	65	65	65	
Max. dump angle at max. reach	deg	71	71	71	71	
Max. dump angle on ground	deg	75	75	75	75	
Max. dump angle at fully raised	L deg	45	45	45	45	
External radius at bucket edge	Q mm	6,596	6,659	6,612	6,676	
Ground Clearance at 12° oscillation	T mm	402	402	402	402	
Rear Axle to Counter weight	S mm	2,208	2,208	2,208	2,208	
Overall length without bucket	R mm	6,120	6,120	6,120	6,120	
Overall length	A mm	8,314	8,526	8,373	8,584	
Operating weight	kg	18,175	19,215	19,229	19,268	

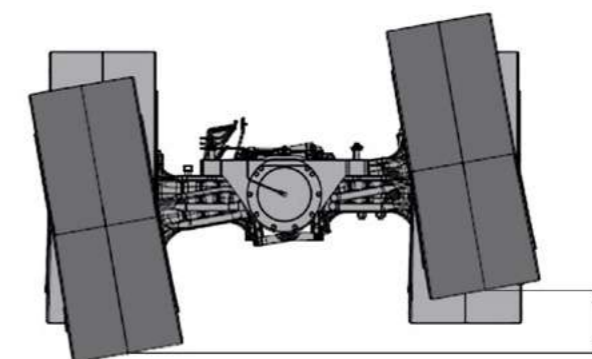
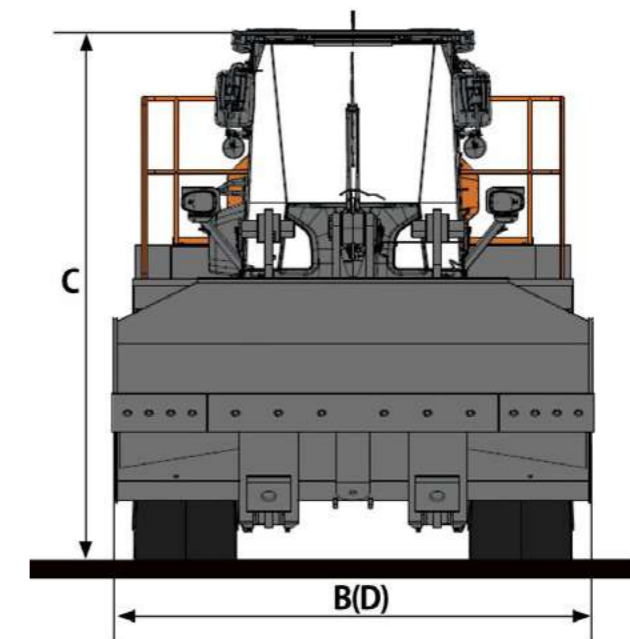
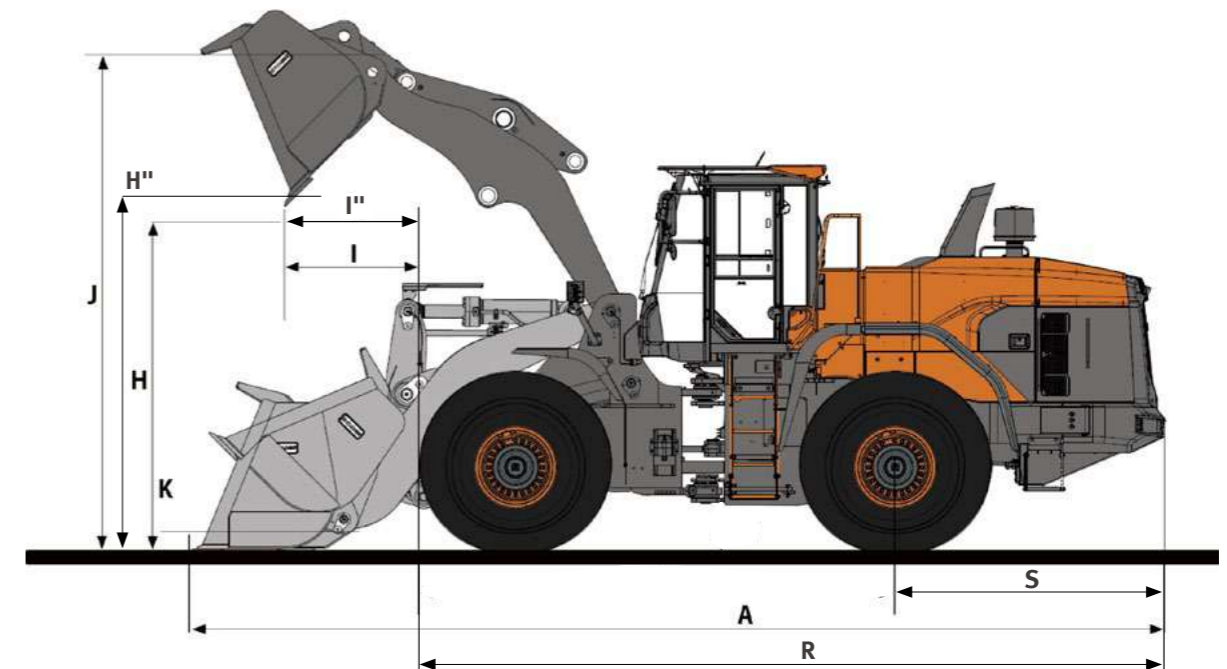
1) Measured to the tip of the bucket teeth

OPERATIONAL DATA (DL320-7M)

BUCKET TYPE		Aggregate Handling			
BUCKET MOUNT		PIN ON		High Lift Arm	
Configuration	Unit	Bolt-on edge (MH)	Segment edge (MH)		
Capacity heaped ISO/SAE	m ³	3.7	3.7		
Bucket width	D	mm	3,000		
Breakout force	kN	136	135	+ 13.2	
Static tipping load (straight)	kg	14,355	14,244	- 3,633	
Static tipping load (at full turn)	kg	12,675	12,577	- 3,208	
Dump height (at 45°) ¹⁾ (at fully raised)	H(H'')	mm	2,933	2,783	+ 524
Dump reach (at 45°) ¹⁾ (at fully raised)	l(l'')	mm	12,675	1,479	+ 204
Dump height (at max. dump) (at max. reach) ¹⁾		mm	2,933	462	+ 24.5
Dump height (at max. dump) (at max. reach) ¹⁾		mm	1,329	1,603	+ 656
Digging depth		mm	89	89	236
Height at bucket pivot point	J	mm	4,170	4,170	+ 524
Max. tilt angle at carry position	K	deg	48	48	51
Max. tilt angle at fully raised	M	deg	64	64	63
Max. tilt angle on ground		deg	44	44	45
Max. tilt angle at max. reach		deg	65	65	63
Max. dump angle at max. reach		deg	71	71	66
Max. dump angle on ground		deg	75	75	72
Max. dump angle at fully raised	L	deg	45	45	45
External radius at bucket edge	Q	mm	6,656	6,716	+ 308
Ground Clearance at 12° oscillation	T	mm	402	402	402
Rear Axle to Counter weight	S	mm	2,208	2,208	2,208
Overall length without bucket	R	mm	6,120	6,120	+ 640
Overall length	A	mm	8,398	8,610	+ 640
Operating weight	kg	19,232	19,320	+ 316	

1) Measured to the tip of the bucket teeth

DIMENSIONS (DL320-7M)



STANDARD EQUIPMENT (DL320-7M)

STANDARD EQUIPMENT

Engine

- DOOSAN DL08 Diesel engine
- Air cleaner - Double element cartridge + Cyclone filtration in prior stage
- Fuel filter - Main fuel filter and fuel pre-filter with water separator
- External drains for engine oil and coolant changes
- Hydraulic radiator fan
- Fuel filler pump

Hydraulic System

- Hydraulic control valve - 2 spool
- Hydraulic main pump - axial piston pump
- Hydraulic control levers
- Boom kick out - Automatic
- Bucket return to dig - Automatic
- Automatic reverse Fan

Cabin and Interior

- 12 V power socket
- Double filtered air cab
- Air conditioner and heater with recirculation function
- Dual Cup holder
- USB Charging Port
- Tinted glasses
- Sunglass Case
- Floor mat
- AM/FM Radio + MP3(USB)
- Windshield washer front and rear
- Windshield wipers front and rear
- Cigarette lighter
- Multiple storage compartments
- Front/Rear Sun visor
- Glass antenna
- Seat - Mechanical suspension
- ROPS cabin - ISO 3471
- FOPS cabin - ISO 3449
- Adjustable steering column
- Rear view mirrors - Interior 1
- Rear view mirrors - Exterior 2

* Standard specification and options may vary by country.

** Specification is subject to change without prior notice for quality enhancement.

Electrical and lighting

- Battery cut-off switch
- Working light - Front 2 + Rear 2
- Driving light - Low and high beams
- Tail indicators - Stop, reversing lights
- Reversing alarm
- Electric horn
- Alternator - 24 V, 80 A
- Self-diagnostic system

Linkage

- Z-bar loader linkage

Drivetrain and Brake system

- Gear shift switch - Manual, Auto 1-4, Auto 2-4
- Kickdown and travelling direction selection
- Starting safety system
- Dual brake circuits with accumulator
- Dual service brake pedals
- Secondary brake system
- Parking brake - Electrical, hydraulic
- Differential - Limited slip

Steering system

- Load sensing steering system

External equipment

- Fender

OPTIONAL EQUIPMENT (DL320-7M)

OPTIONAL EQUIPMENT

Some of these optional equipments may be standard in some markets. Some of these optional equipments cannot be available on some markets. You must check with the local Doosan dealer to know about the availability or to release the adaptation following the needs of the application.

Hydraulic System

- Hydraulic Oil - VG32 Cold Weather
- Hydraulic Oil - VG68 Tropical Weather
- Hydraulic control valve - 3 spool
- Load isolation system (LIS)
- Hydraulic control levers - Mono
- Hydraulic control levers - FNR
- Quick coupler piping and switch

Cabin and Interior

- Seat - Air suspension with heater
- Camera - Rear view

Electrical and lighting

- License lamp
- Beacon - Rotating
- LED working lamp
- Heated side mirrors

Linkage

- Z-bar high lift loader linkage

Drivetrain and Brake system

- LSD/HD Differential
- Thermostat
- 5-Gear Lockup Transmission

Steering system

- Emergency steering pump

External equipment

- Fender - Full fender + rubber protector
- Fender - Rubber protector
- Wheel chocks
- Anti-noise Kit
- Additional counterweight - 0.2 / 0.3 / 0.4 ton
- Tool Kit
- Wet-type pre-cleaner
- Spark arrestor
- AGS (Auto Greasing System)