

**DOOSAN**

Construction Equipment

**DL420A-7M**  
**DL420-7M**

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-00-2201

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# GRAND PIONEERS

## DL420A-7M

**Power to Break-Through Any Serious Work Outclass,  
Outpace, Out-Tech - The Forerunner of Next Generation**

### Mech. Engine

A frontier. A forerunner. Charging toward any undeveloped site. Sturdy. Rugged. Pushing through any limits with its assertive posture. DL420A-7M, the leader of bold new wheel loader generation. This avantgarde will pioneer new path for your business.

Knowledge, heritage and power all combined into progressive spirit. DL420A-7M's thrilling performance can break through any serious challenges posed by hard mining and rough terrains. This new wheel loader stays true to its root, outclass power and outstanding productivity, but advanced with out-tech intelligent features.

Take first on this world built for performance, strength and sustainability. It sure can be the choice of bespoke solution for your business. DL-420A-7M, the power to trailblaze your own way.

### OVERWHELMING PERFORMANCE

Impressive breakout force and high traction make penetration easy and allow you to handle the hardest materials. Power and athletic balance of powerful hydraulic system makes work quick and efficient.

### BUILT FOR COMFORT AND LONG LASTING

Obsessive engineering and countless tests have proven DL420A-7M's superior quality and durability to cope with the most demanding works. Its functional and refined in-and-out design delivers you comfort and total control.



# LOADING VALUES, LIFTING YOUR BUSINESS

## DL420-7M

**A Key Player for Every Construction Site,  
With the Next Generation of Power and Intelligence.**

Elec. Engine



Photos may include optional equipment

The next generation of wheel loaders '7M series' are coming. As a family of ever-evolving heritage that keeps getting better by every generation, now DL420-7M is taking its next innovation to make your business even better.

Its presence. Imposing. Its design. Distinctive. Its power. Dominative. Its intelligence. Advanced. Its vision. Finally come to life. Future is no more mere idealism since Doosan has the technique and passion to turn it into reality.

DL420-7M, fully loaded with benefits. We drew out the constant virtues from the heritage and fast forward to the future. Predecessor's exceptional power and outstanding productivity, along with newly added intelligent and Innovative features. DL420-7M is ready to bring you the long-term gain.

Inconceivable features you didn't even know that you have ever wanted. DL420-7M. With its heritage, overtaking the future's pace.

### UNBEATABLE PERFORMANCE

Impressive breakout force and high traction force make penetration easy and allow you to handle the hardest materials. Power, and athletic balance of Powerful hydraulic system makes work quick and efficient.

### MEET WITH EFFICIENCY MANAGEMENT

Do more with less fuel. Working modes and power modes provided for constantly changing working conditions. Adjusts the mode depending on the situation, for either fuel efficiency or performance. Lock-Up function to fully and effectively deliver the whole engine power. Situation Awareness Technology automatically adjusts engine's output according to the result of the real time analysis.

### DESIGNED FOR COMFORT AND LONG LASTING,

Every detailed feature is there for a reason. Obsessive engineering and countless tests have proven DL420-7M's superior quality and durability to cope with the most demanding work environments. Its functional and intuitive in-and-out design delivers you comfort and total control.

### HEADING TOWARDS FUTURE

DL420-7M is an embodiment of Doosan's forward thinking and concerns about sustainability. Unique and future-oriented connectivity harmoniously interact with intelligent assistance systems. An investment for the future, for financial efficiency and long term industry sustainability.

# WE ARE BACK WITH NEW FEATURES

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

## LOCK-UP OPTION (DL420-7M)

Featured with a torque converter lock-up. Being activated, the engine automatically connected directly to the transmission.

## SPARK ARRESTOR (OPTIONAL)

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

## ENHANCED COUNTERWEIGHT

Reinforced standard counterweight with additional counterweight option.

## AUTOMATIC REVERSE FAN

Automatic reversible fan blows air in the opposite direction at a set interval, thus cleaning the cooling unit itself.

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

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

## STRENGTH AND INTELLIGENCE

With tremendous lift height and capacity, along with enough torque to bite into the toughest materials, Doosan wheel loaders go a step beyond scooping, carrying and loading. It's your ticket to making harder work easier, longer days more enjoyable, and every minute more productive and profitable.

## CABIN VISIBILITY

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

## 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 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.

## SITUATION AWARENESS TECHNOLOGY (DL420-7M)

Situation Awareness Technology automatically monitors the machine's operation. System itself can count and analyze operative data to adjust engine's output, in order to attain maximum fuel efficiency.

## 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.



Photos may include optional equipment.

# MORE THAN SIMPLE POWER

All the Confidence with Inexhaustible Capability

Rugged, versatile, venturing. Roaring through the rough site, DL420A-7M and DL420-7M are wheel loaders which gives relentless power, enduring stability and supreme controllability. Irresistible performance with enhanced hydraulic system and upgraded engine power. Superior lift height and capacity, along with powerful torque to break into the toughest materials.

Exceptional performance of DL420A-7M and DL420-7M are also valid in attaining maximum efficiency. Full auto transmission and powertrain features provide an efficient delivery of power on various works and conditions. With DL420A-7M and DL420-7M, you will be able to open possibilities up for new efficient workflows. Get the hard job right while saving big on fuel.



## EXUBERANT ENGINE POWER (DL420A-7M)

DL420A-7M is powered by 'DOOSAN DX12', which is a whole new mechanical engine built on Doosan's continuously evolving engine technology. DOOSAN DX12's greater engine outputs of 218 kw and impressive torque enables to precisely deliver the power for most demanding work. Reliable and robust mechanical engine provides high resistance to exterior contamination.



## SUPERIOR AND SUSTAINABLE POWER (DL420-7M)

The DL420-7M is powered by economic and powerful Scania DC13 engine. Advanced DC13 engine delivers superior performance with excellent fuel efficiency and long service life. It combines exceptional power 257 kw output and high torque at low revs.



## 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 enhanced productivity and durability. Transmission has three modes of operation, 'Manual', 'Automatic' and 'Semi-Automatic'. 'Automatic' mode provides self regulative shift for all gears and 'Semi-Automatic' mode provides automatic option after the first acceleration and gear shift.



#### 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.



#### LOCKUP OPTION (DL420-7M)

DL420-7M is featured with a torque converter 5-gear lockup transmission option. Being activated, the engine automatically connected directly to the transmission. Combined with 5-gear lockup transmission option, the transmission can receive the entire engine power without hydraulic slip. Shifts depending on speed and travel resistance.



#### SITUATION AWARENESS TECHNOLOGY (DL420-7M)

Situation Awareness Technology automatically monitors the machine's operation. System itself can count and analyze operative data to adjust engine's output, in order to attain maximum fuel efficiency.

#### LS SYSTEM

LS system let DL420-7M significantly enhance fuel and work efficiency. LS system helps controlling hydraulic components through the electronic sensor, regarding on changing working conditions and load capacity. It also act on steering controllability improvement in boom and arm. Providing faster response and reduces fuel loss.

#### DIVERSIFIED BUCKET OPTION

DL420A-7M diversified bucket options including large capacity bucket option and aggregate bucket option. Added large-capacity bucket options provide increased loading capacity to handle more works.

# CUSTOMIZED FOR YOUR PREFERENCE

## Attachments tailored to you

Doosan wheel loaders are all extraordinary even if you choose not to pick on specific options. However, take a second for a look at selection of thoughtfully curated option packages, if you want to do even further. We have constantly worked on thorough analysis of your needs. Doosan is ready to tailor a complete solution that fits you perfectly.

Maximize productivity and profitability by combining the DL420-7M with a range of durable attachments. Specialized in each of the needed option including rehandling, extraction, or any other application. Together as an integrated part of the wheel loader, all attachments effectively perform a variety of tasks and increase your productivity. Increase your versatility and perform a variety of tasks-all while experiencing faster cycle times and excellent control.



1

### 1. AGGREGATE BUCKET (OPTIONAL)

Fortified bucket options for handling aggregate material.



2

### 2. DIVERSIFICATION OF ADDITIONAL COUNTERWEIGHT (OPTIONAL)

300 / 400 / 500 kg Additional counterweight can be assembled with standard counterweight. Increases tipping load of the machine to raise.



3

### 3. HIGH LIFT (OPTIONAL)

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



4

### 4. QUICK COUPLER PIPING (OPTIONAL)

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





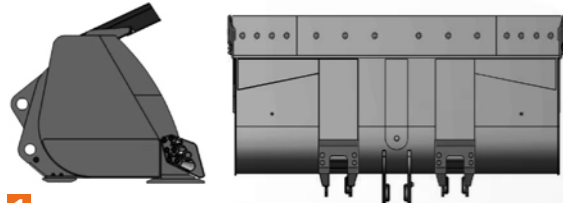
# UNALTERABLE LASTING QUALITY

**Always Up for Next Challenge With Tenacity,  
Solidity and Durability**

Doosan has earned credibility for robust and reliable equipment. Outwork. Outlast. Outstand. DL420A-7M and DL420-7M are rulers with endurance to handle the most severe, heavy-duty applications. Designed tough frame axles and robust components were formed in the optimum shape to aptly incarnate engine power. Torsional flexibility and outlasting stability for these rugged vehicles to be dependable on rough terrain. Use of higher performance new materials, the development of computer-assisted structural design techniques, with thorough engineering and countless tests at different settings proved how DL420A-7M and DL420-7M can stand with external forces. Rigorous quality applied to remote possibilities in hydraulic components and all key frame structures.







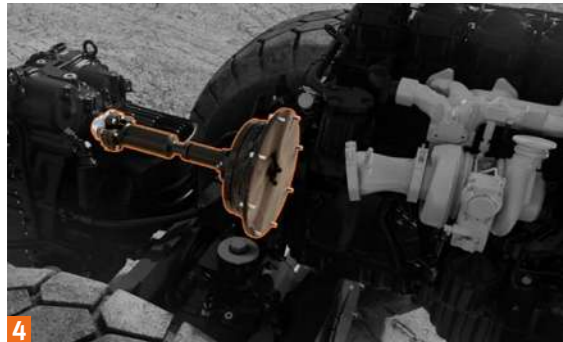
1



2



3



4



5



6

#### 1. REINFORCED BUCKET

The lower and side panels of the bucket have been reinforced with additional plates (standard). Reinforcement applied at both sides and at lower panel.

#### 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.

#### 3. RADIATOR GRILL WITH STEEL STRUCTURE

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

#### 4. ENHANCED TRANSMISSION DAMPER

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

#### 5. PROPELLER SHAFT

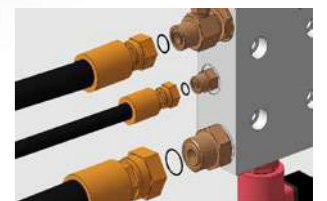
A protective cover has been installed to protect the oil seal from dust, foreign objects and premature wear. Robust steel suspension provides excellent transmission of power and ensures reliable stability.

#### 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.

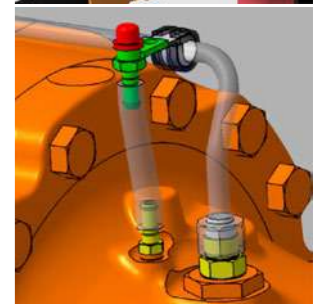
#### 7. APPLIED MORE RIGOROUS QUALITY STANDARD

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



#### ORFS-ALL PORTS

fitted even in pilot line and pressure line.



#### REMOTE AXLE BREATHER

Increased the length of front axle breather for prevention of pollution from particle matter. Added additional remote type axle breather on rear axle.



#### FORTIFIED AXLE DURABILITY FOR HEAVY DUTY OPERATION

The brake discs have been repositioned to the rear part of the reduction gear, where rotation speed is lower. Improved internal oil flow prevents premature disc wear due to overheating of the internal hub components. Heavy duty axles are designed for excellent stability and traction on even the roughest terrain.

# ON-POINT FOR PRODUCTIVE WORK

**Intuitive Details On-Point  
for Comfort and Concentration**

DL420A-7M and DL420-7M are ready to give you more options, benefits, space and comfort with advanced safety. To materialize intuitive command center, all machine interfaces are ergonomically positioned within easy reach. With functions and information minimized into a simple gauge panel, you can naturally concentrate on what you really need to see.

DL420A-7M and DL420-7M provide an ample space for storage, with features made of robust materials and authentic craftsmanship. Re-designed cabin concerned omni-directional visibility and safety features. Climate control systems with air suspension seat would give you optimized comfort. Protective and adaptive working environments keep you revitalized to work productively, day in and day out.



## 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. (Optional)



2

### 1. ALL AROUND VISIBILITY

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

### 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

### 3. 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.



4

### 4. THUMBWHEEL JOYSTICK

Joystick enables united and intuitive control of your wheel loader. The steering column features both tilting and telescopic functions.

### 5. SWITCH PANEL / KEYPAD

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



5

### 6. 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.



6

### 7. ADDITIONAL WORKING LAMP (OPTIONAL)

New additional working lamp contributes to enhanced safety through improved illumination.



7

### 8. CENTRAL MONITOR PANEL

The compact central monitor panel is ergonomically designed and allows the operator to monitor the status and warning lights at a single glance.

### 9. AIR-SUSPENSION SEAT (OPTIONAL)

Air-suspension seats provide more comfort and support for the operator.

### 10. AIR CONDITIONING

The high performance of air conditioning system provides an air flow which is adjusted and electronically controlled according to the conditions. A double air filter protects the operator's environment.



- 1. All Around Visibility
- 2. Ergonomically Designed Work Pedal
- 3. Central Gauge Panel
- 4. Thumbwheel Joystick
- 5. Switch Panel
- 6. Rear View Monitor (Optional)
- 7. Adaptive Power modes (Optional)
- 8. Central Monitor Panel
- 9. Air-Suspension Seat (Optional)
- 10. Air Conditioning

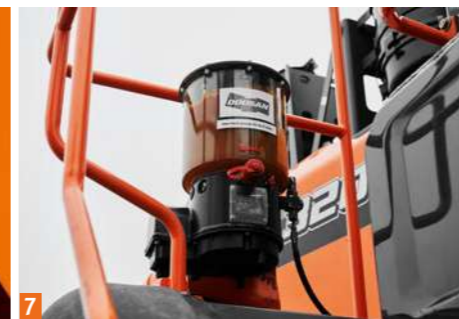
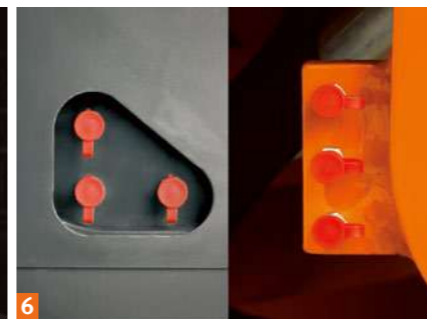
# SHORTENED MAINTAENANCE FOR LONGER LIFE SPAN

## Brief Maintenance Driving Up the Operating Time

To maximize machine uptime and to lower your cost of ownership, it is a key to remain optimum machine condition by regular maintenance. Doosan offers concise maintenance procedure which enables frequent check, for DL420A-7M and DL420-7M to operate in best condition at long life span.

Ground accessible filters and simple layout is offered to lighten your burden for maintenance. Centralized grease inlets are designed for simple routine. Extensive service network and expert assistance are also readily available, Doosan CONNECT provides you a range of services to get the most productivity out of your equipment.





### 1. CENTRAL JOINTS

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

### 2. TRIPLE-ELEMENT AIR FILTER

Maintenance-free cyclone air pre-filter separates more than 99% of particles 20 microns in size and larger. Extending the air filter's lifetime, the pre-filter also ensures better combustion and a longer engine lifetime.

### 3. AUTOMATIC REVERSE FAN (OPTIONAL)

The 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. WIDE FIN RADIATOR

Cooling fan regulates the temperature of the vital components. Wide pitch fin radiators coupling with reversible fan keep the cooling system performing constantly - minimizing machine downtime and reducing daily maintenance.

### 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. WATER SEPARATOR

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

### 9. ENGINE OIL/COOLANT DRAIN PORT

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

### 10. HYDRAULIC OIL RETURN FILTER

The high-efficiency, large-capacity return filter manufactured with the glass-fiber media can eliminate foreign substances up to 99.5 percent to protect the costly hydraulic equipment and substantially extend the replacement cycle.



# 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	• Location • Geo-fence	All models	All models
Operation hours	• Daily, Weekly, Monthly report	All models	All models
Operation hours	• Total operation hours • Operation hours by mode	All models	All models
Maintenance parts	• Preventive maintenance by item replacement cycle	All models	All models
Fault code/ Warning	• Fault code • Machine Warnings on Gauge Panel	All models	All models
Fuel information	• Fuel level • Fuel consumption	All models	All models
Dump capacity	• Dump tonnage • Count of Work Cycle	N/A	All models

Some features may be restricted, depending the models and regions. For more information, please contact your regional dealer

# 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 eight other PDCs include one in China (Yantai), three in USA (Seattle, Atlanta and Miami), two in Europe (Germany and the UK), one in the Middle East (Dubai) and one in Asia (Singapore).



MPDC : Mother Parts Distribution Center

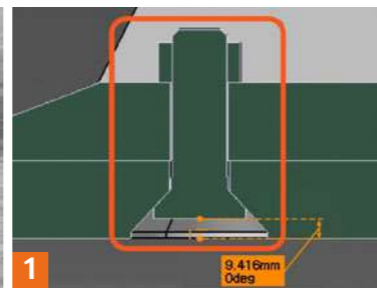
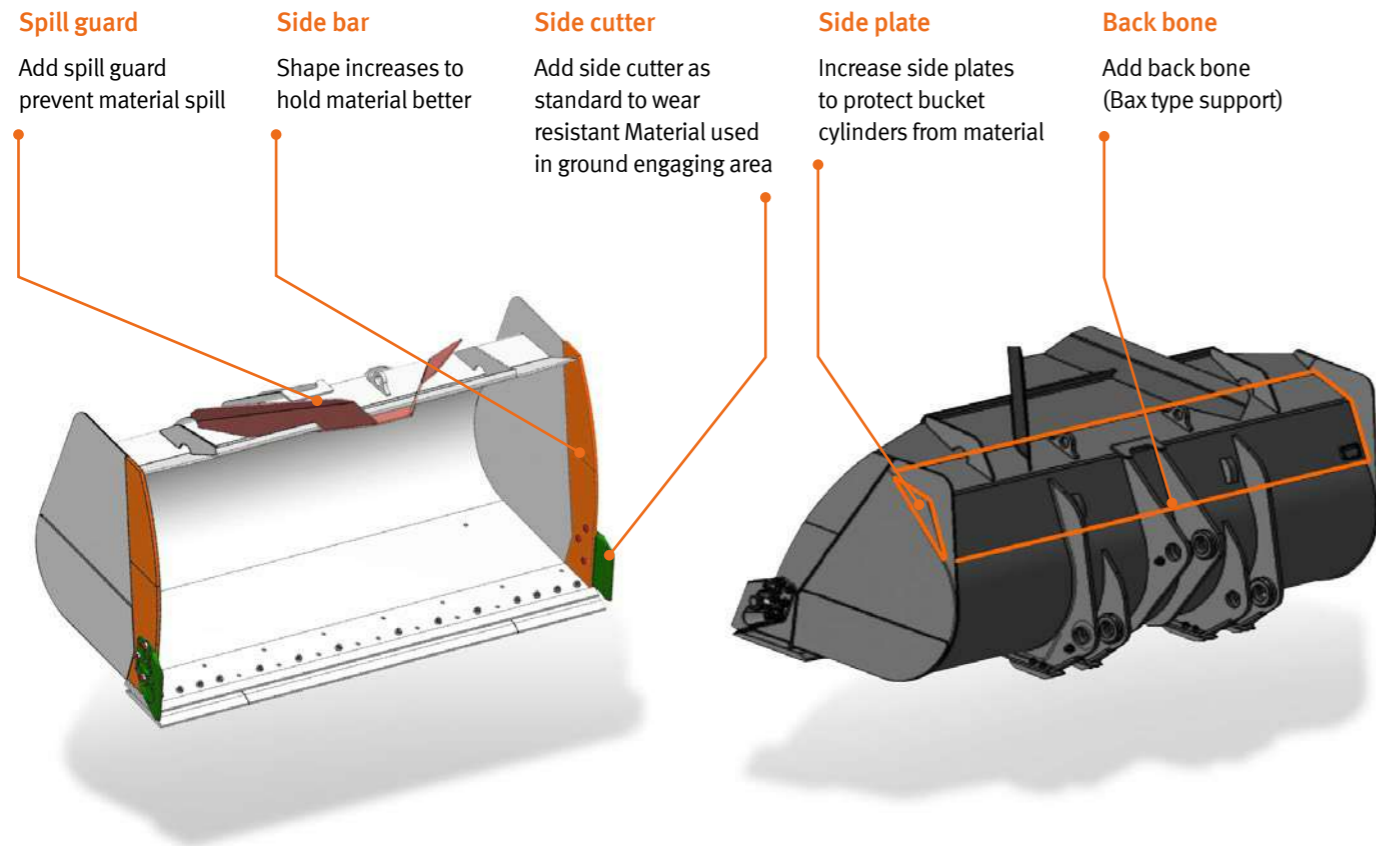
PDC : Parts Distribution Center

**PDC BENEFIT**

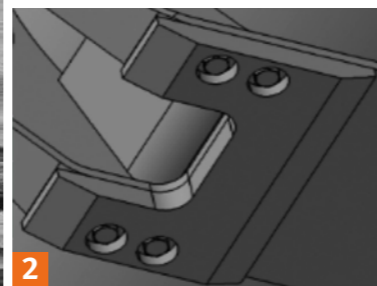
- Distribution Cost Reduction
- Maximum Parts supply rate
- Shortest distance/time parts delivery
- Real-time service support
- Minimum downtime

# ATTACHMENTS

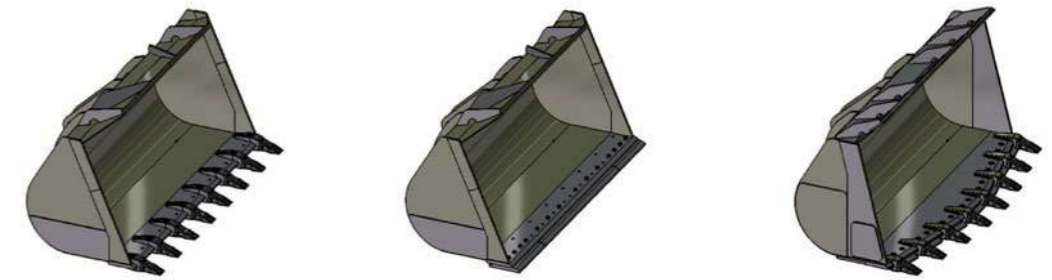
Aggregate bucket is the most commonly used bucket in the construction equipment market and is designed mainly for use in heavy construction but also used in low density mining and quarry application.



**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

	DLGP42	DLLM42	DLVR42
WEIGHT [kg]	2,080 / 2,180 / 2,280	2,760	2,720
CAPACITY [m <sup>3</sup> ]	3.9 / 4.2 / 4.5	7.0	3.9



## QUICK COUPLER

	DLQC42
WEIGHT [kg]	760



## PALLET FORK

	DLPF42~60Q	DLPF 42~72Q
WEIGHT [kg]	1,630	1,715
LENGTH [inch]	60	72
OPERATING WIDTH [mm]	600~2,160	600~2,160



## LIFTING ARM (QC TYPE)

	DLA42-Q
WEIGHT [kg]	610
LOAD [kg] (REACH [m])	2,000 (3.5) / 1,400 (4.6) / 1,000 (5.7)



**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 (QC TYPE)

	DLLG42-GQ	DLLG42-TQ	DLLG42-SQ
WEIGHT (kg)	2,250	2,700	2,550
LOG DIA. Ø (mm)	400	1,100	1,400

# TECHNICAL SPECIFICATION (DL420-7M)

## ENGINE

The high performance Scania DC13 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

SAE J1995, gross 257 kW @1,800 rpm  
SAE J1349, net 257 kW @1,800 rpm

### Max Torque

169.68 kgf.m (1,664 N.m) @ 1,400 rpm

### Displacement

12,700 cc (774 cu.in)

### Bore x stroke

Ø 130 x 160 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) : 200 Ah

### Starter power

24 V / 6.0 kW

### Alternator output

28 V / 100 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 : 7.0 · 11.9 · 18.3 · 37.6 (1 / 2 / 3 / 4)  
Reverse : 7.0 · 11.9 · 26.0 (1 / 2 / 3)

## HYDRAULIC SYSTEM

The hydraulic system uses axial piston pumps. 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

266 / 210 / 58 l/min (70.3 / 55.5 / 15.3 gal/min)

### Working Pressure

320 bars

### Pressure of the pilot circuit

35 bars

### Filtration capacity on the return line

10 microns

### Loading cycles time

Lifting speed (loaded) : 6.3 seconds  
Dumping speed (loaded) : 1.6 seconds  
Lowering speed (empty) : 2.7 seconds

## OPERATOR'S CABIN

The modular cab 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 cab conforms ROPS ISO 3471 and  
FOPS : ISO 3449

Guaranteed external noise level Lwa  
(following ISO 6395) 112 dB(A)

Guaranteed inside of cabin noise level Lpa  
(following ISO 6396) 78 dB(A)

## STEERING

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

### Steering angle

40°

### Oil flow

206.4 l/min @ 2,100 rpm

### Working pressure

210 bars

### Steering cylinders (2)

bore x stroke : 100 x 450 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 795 mm

### Bucket cylinders (1)

bore x stroke : 160 x 615 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) - 45 ℓ  
Radiator (cooling liquid) - 51.6 ℓ  
Fuel - 318 ℓ  
Hydraulic oil - 223 ℓ - ST  
Transmission(oil) - 54 ℓ  
Front axle - 42 ℓ  
Rear axle - 40 ℓ

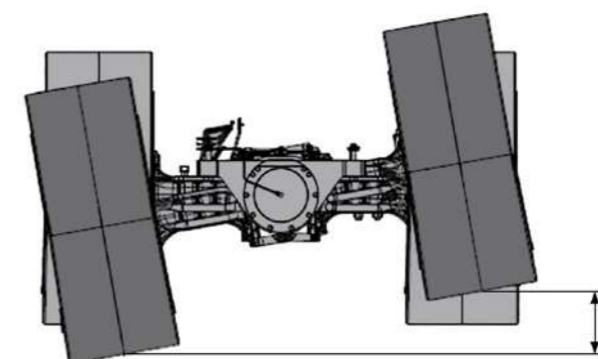
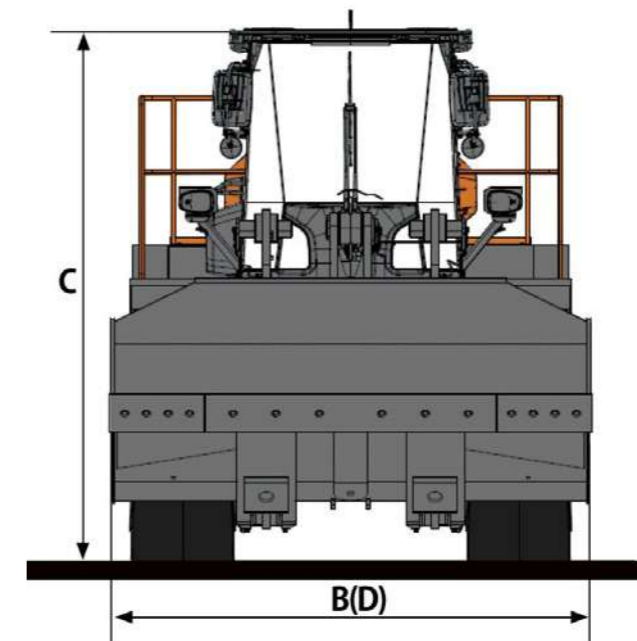
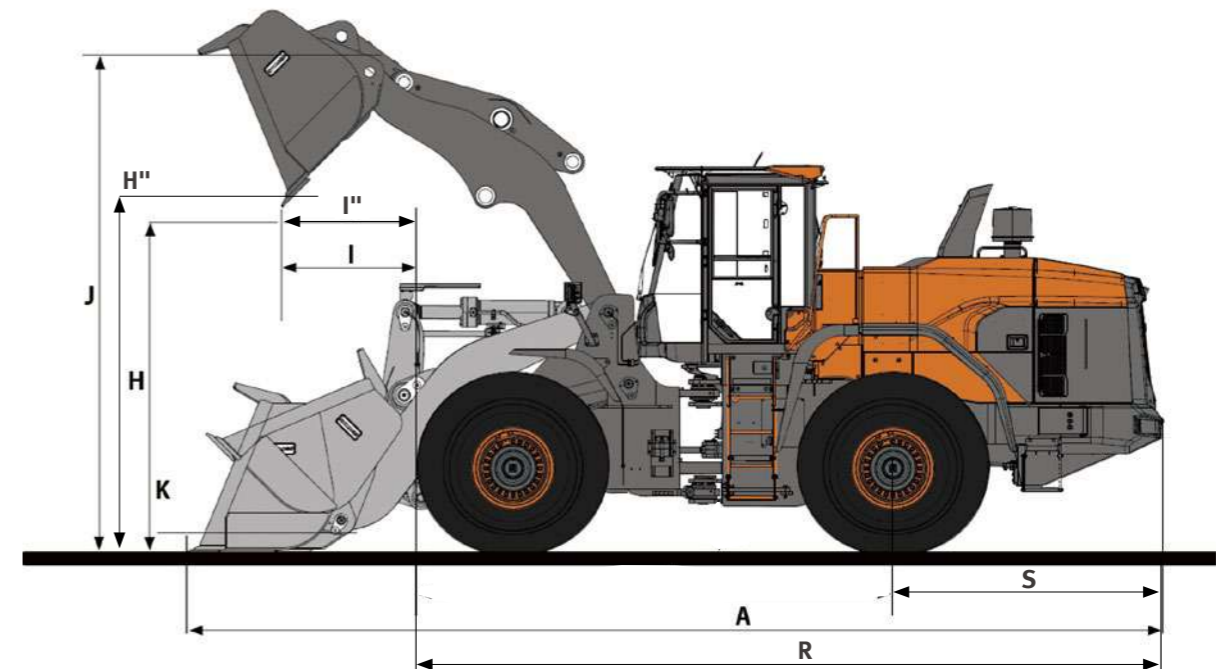


# OPERATIONAL DATA (DL420-7M)

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	
Configuration	Unit	Teeth	Bolt-on edge	Segment edge	Bolt-on edge	Bolt-on edge	Segment edge	Bolt-on edge	
Capacity heaped ISO/SAE	m <sup>3</sup>	3.9	4.1	4.2	4.2	4.2	4.7	5.0	
Bucket width	D	mm	3,200	3,200	3,270	3,270	3,354	3,354	3,300
Breakout force	kN		198	184	165	164	168	167	158
Static tipping load (straight)	kg		17,890	17,585	16,915	16,845	16,380	16,770	16,135
Static tipping load (at full turn)	kg		15,785	15,115	14,920	14,860	14,845	14,795	14,235
Dump height (at 45°) <sup>1)</sup> (at fully raised)	H(H <sup>1)</sup> )	mm	2,950	3,055	2,960	2,800	2,925	2,765	2,835
Dump reach (at 45°) <sup>1)</sup> (at fully raised)	I(I <sup>1)</sup> )	mm	1,365	1,255	1,350	1,490	1,385	1,525	1,390
Dump height (at max. dump) <sup>1)</sup>		mm	655	795	675	470	625	420	540
Dump height (at max. dump) <sup>0)</sup>		mm	1,470	1,425	1,465	1,520	1,480	1,535	1,445
Digging depth		mm	100	100	100	110	100	110	160
Height at bucket pivot point	J	mm	4,265	4,265	4,265	4,265	4,265	4,265	4,265
Max. tilt angle at carry position	K	deg	48	48	48	48	48	48	48
Max. tilt angle at fully raised	M	deg	63	63	63	63	63	63	63
Max. tilt angle on ground		deg	44	44	44	44	44	44	44
Max. tilt angle at max. reach		deg	59	59	59	59	59	59	59
Max. dump angle at max. reach		deg	72	72	72	72	72	72	72
Max. dump angle on ground		deg	65	65	65	65	65	65	65
Max. dump angle at fully raised	L	deg	46	46	46	46	46	46	46
External radius at bucket edge	Q	mm	7,020	6,980	7,045	7,110	7,100	7,160	7,110
Ground Clearance at 12° oscillation	T	mm	480	480	480	480	480	480	480
Rear Axle to Counter weight	S	mm	2,475	2,475	2,475	2,475	2,475	2,475	2,475
Overall length without bucket	R	mm	7,505	7,505	7,505	7,505	7,505	7,505	7,505
Overall length	A	mm	8,985	8,836	8,965	9,180	9,015	9,230	9,085
Operating weight	kg		22,745	22,825	23,120	23,170	23,205	23,240	23,605

1) Measured to the tip of the bucket teeth

# DIMENSIONS (DL420-7M)



# STANDARD EQUIPMENT (DL420-7M)

## STANDARD EQUIPMENT

### Engine

---

- Scania DC13 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 - 3 Piston Pumps
- Hydraulic control levers
- Boom kick out - Automatic
- Bucket return to dig - Automatic
- Automatic reverse Fan

### 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
- 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

### Electrical and lighting

---

- Battery cut-off switch
- Working light - Front 2 + Rear 2
- Driving light - Low and high beams
- Tail indicators - Stop/Turn/Positioning Lamp
- 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
- Secondary brake system
- Parking brake - Electrical, hydraulic
- Differential - Limited slip

### Steering system

---

- Load sensing steering system

### External equipment

---

- Fender

# OPTIONAL EQUIPMENT (DL420-7M)

## 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 - FNR
- Quick coupler piping and switch

### Cabin and Interior

---

- Seat - Air suspension with heater
- Camera - Rear view
- Cabin Handrail and platform to clean front windshield

### Electrical and lighting

---

- License lamp
- Beacon - Rotating
- LED working lamp
- Heated side mirrors
- High Sound Pressure Horn

### Linkage

---

- Z-bar high lift loader linkage

### Drivetrain and Brake system

---

- LSD / HD Differential
- Thermostat
- Axle Oil Cooler

### Steering system

---

- Emergency steering pump

### External equipment

---

- Fender - Full fender + rubber protector
- Fender - Rubber protector
- Underguard Kit
- Additional counterweight - 0.3 / 0.4 / 0.5 ton
- Tool Kit
- Wet-type pre-cleaner
- Spark arrestor
- AGS (Auto Greasing System)
- Fuel Filler Pump

\* Standard specification and options may vary by country.

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

# TECHNICAL SPECIFICATION (DL420A-7M)

## ENGINE

The high performance Doosan DX12 engine offers low fuel consumption and low exhaust emissions, which are well below the requirements of the Tier 2 regulation.

-GROSS SAE J1995

### Rated Power

SAE J1995, gross 218 kW @2,000 rpm  
SAE J1349, net 218 kW @2,000 rpm

### Max Torque

1,300 N.m @ 1,200 rpm

### Displacement

11,051 cc

### Bore x stroke

Ø 123 x 155 mm

### Battery

System voltage : 24 V  
Quantity : 12 V x 2  
Capacity (AMP) : 200 Ah

### Starter power

24 V / 7.0 kW

### Alternator output

28 V / 100 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 : 3.089

### Travel speed (km/h)

Forward : 7.5 · 12.6 · 26.9 · 38.8 (1 / 2 / 3 / 4)  
Reverse : 7.5 · 12.6 · 26.9 (1 / 2 / 3)

## HYDRAULIC SYSTEM

The hydraulic system uses axial piston pumps. 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

280 / 210 / 66.8 l/min

### Working Pressure

320 bars

### Pressure of the pilot circuit

35 bars

### Filtration capacity on the return line

10 microns

### Loading cycles time

Lifting speed (loaded) : 6.0 seconds  
Dumping speed (loaded) : 1.7 seconds  
Lowering speed (empty) : 2.8 seconds

## OPERATOR'S CABIN

The modular cab 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 cab conforms ROPS ISO 3471 and  
FOPS : ISO 3449

Guaranteed external noise level Lwa  
(following ISO 6395) 112 dB(A)

Guaranteed inside of cabin noise level Lpa  
(following ISO 6396) 78 dB(A)

## STEERING

### Steering angle

40°

### Oil flow

210 l/min @ 2,000 rpm, high

### Working pressure

210 bars

### Steering cylinders (2)

bore x stroke : 100 x 450 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 795 mm

### Bucket cylinders (1)

bore x stroke : 160 x 615 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) - 28 ℓ

Radiator (cooling liquid) - 57 ℓ

Fuel - 318 ℓ

Hydraulic oil - 223 ℓ

Transmission(oil) - 54 ℓ

Front axle - 42 ℓ

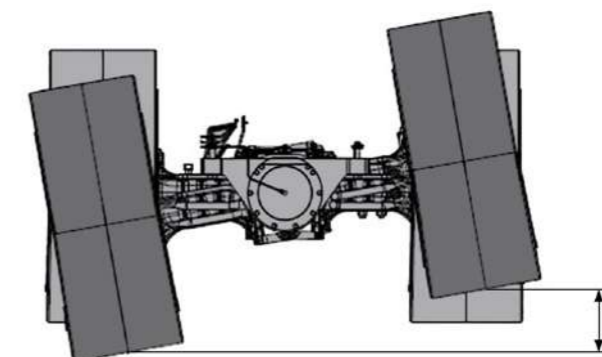
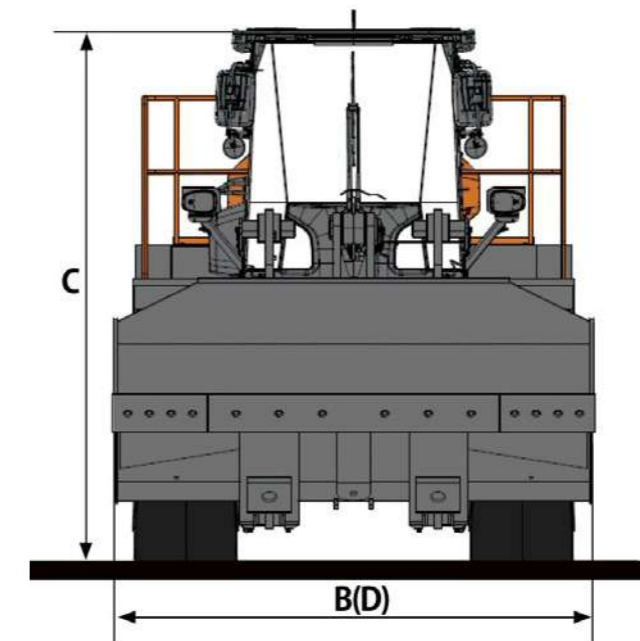
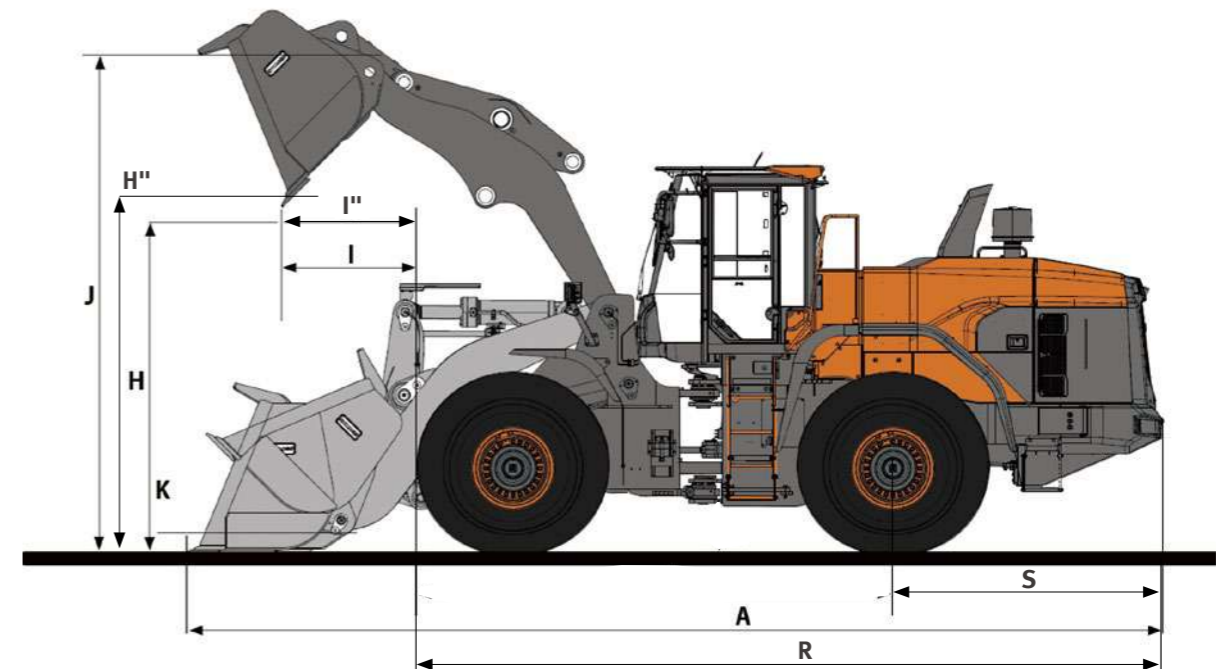
Rear axle - 40 ℓ

# OPERATIONAL DATA (DL420A-7M)

BUCKET TYPE		General purpose							High Lift Arm
BUCKET MOUNT		PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	
Configuration	Unit	Teeth	Bolt-on edge	Bolt-on edge (MH)	Segment edge (MH)	Bolt-on edge (MH)	Segment edge (MH)	Bolt-on edge (MH)	
Capacity heaped ISO/SAE	m <sup>3</sup>	3.9	4.1	4.2	4.2	4.7	4.7	5.0	
Bucket width D	mm	3,200	3,200	3,270	3,270	3,354	3,354	3,300	
Breakout force	kN	198	184	165	164	168	168	158	-7
Static tipping load (straight)	kg	17,890	17,586	16,913	16,845	16,828	16,772	16,133	-2,985
Static tipping load (at full turn)	kg	15,782	15,514	14,921	14,860	14,845	14,796	14,232	-2,630
Dump height (at 45°) <sup>1)</sup> (at fully raised)	H(H <sup>1)</sup> ) mm	2,950	3,055	2,965	2,805	2,925	2,765	2,835	+480
Dump reach (at 45°) <sup>1)</sup> (at fully raised)	I(I <sup>1)</sup> ) mm	1,365	1,260	1,350	1,490	1,385	1,525	1,390	+55
Dump height (at max. dump) <sup>1)</sup>	mm	655	800	675	470	625	420	540	+65
Dump reach (at max. dump) <sup>1)</sup>	mm	1,475	1,425	1,465	1,520	1,480	1,535	1,445	+670
Digging depth	mm	100	100	100	110	100	110	160	+115
Height at bucket pivot point J	mm	4,265	4,265	4,265	4,265	4,265	4,265	4,265	+480
Max. tilt angle at carry position K	deg	48	48	48	48	48	48	48	51
Max. tilt angle at fully raised M	deg	63	63	63	63	63	63	63	64
Max. tilt angle on ground	deg	44	44	44	44	44	44	44	45
Max. tilt angle at max. reach	deg	59	59	59	59	59	59	59	59
Max. dump angle at max. reach	deg	72	72	72	72	72	72	72	61
Max. dump angle on ground	deg	65	65	65	65	65	65	65	65
Max. dump angle at fully raised L	deg	46	46	46	46	46	46	46	45
External radius at bucket edge Q	mm	7,020	6,980	7,045	7,110	7,100	7,160	7,110	+210
Ground Clearance at 12° oscillation T	mm	480	480	480	480	480	480	480	
Rear Axle to Counter weight S	mm	2,475	2,475	2,475	2,475	2,475	2,475	2,475	
Overall length without bucket R	mm	7,505	7,505	7,505	7,505	7,505	7,505	7,505	+480
Overall length A	mm	8,985	8,836	8,965	9,180	9,015	9,230	9,085	+480
Operating weight	kg	22,530	23,095	23,020	22,970	23,055	23,095	23,455	+250

1) Measured to the tip of the bucket teeth

# DIMENSIONS (DL420A-7M)



# STANDARD EQUIPMENT (DL420A-7M)

## STANDARD EQUIPMENT

### Engine

---

- Doosan DX12 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

### Hydraulic System

---

- Hydraulic control valve - 2 spool
- Hydraulic main pump - 3 Piston Pumps
- 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
- Windshield washer front and rear
- Windshield wipers front and rear
- Cigarette lighter
- Multiple storage compartments
- Front 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/Turn/Positioning Lamp
- Reversing alarm
- Electric horn
- Alternator - 24 V, 100 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
- Secondary brake system
- Parking brake - Electrical, hydraulic
- Differential - Limited slip

### Steering system

---

- Load sensing steering system

### External equipment

---

- Fender

# OPTIONAL EQUIPMENT (DL420A-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 - FNR
- Quick coupler piping and switch

### Cabin and Interior

---

- Seat - Air suspension with heater
- Camera - Rear view
- Cabin Handrail and platform to clean front windshield
- Rear sun visor

### Electrical and lighting

---

- License lamp
- Beacon - Rotating
- LED working lamp
- Heated side mirrors
- High Sound Pressure Horn

### 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
- Underguard Kit
- Additional counterweight - 0.3 / 0.4 / 0.5 ton
- Tool Kit
- Wet-type pre-cleaner
- Spark arrestor
- AGS (Auto Greasing System)
- Fuel Filler Pump