

DOOSAN

Wheel Loaders |
DL420CVT-5



Maximum power: 311 hp
Operating weight: 23080 kg
Bucket capacity: 4.0 m³



Doosan Group – Building your tomorrow today

▣ Be part of the great Doosan family

The Doosan Group - founded in 1896 and headquartered in Seoul, South Korea - is one of the fastest-growing companies in the world:

- With more than 37,500 employees in 38 countries, we are a major player in a variety of industries worldwide.
- A global leader in the Infrastructure Support Business (ISB), with 56 subsidiaries and 3,700 distributors worldwide.
- Dramatic growth over the past two decades, with an annual Doosan Group revenue rising from €2.4 billion in 1998 to €12.8 billion in 2016.

▣ Doosan Group – a top player worldwide



Doosan Infracore

- Among the world's Top 5 manufacturers of construction equipment



Doosan Bobcat

- A leading company in the design, manufacture, marketing, distribution and service of small equipment and attachments for construction, agriculture, and landscaping
- Leading position in the global compact equipment market
- N° 1 in North America for SSL, CTL and MEX



Doosan Heavy Industries & Construction

- World N° 1 in desalination plant construction
- World N° 1 in heat recovery steam generator market
- World N° 1 in mould & tool steel
- World N° 3 in crankshafts



Doosan Engineering & Construction

A pioneering leader in construction of residential and public buildings, civil works and industrial facilities.

- World N° 1 chemical process equipment products



▣ Doosan Infracore Construction Equipment

Creating construction equipment for over 40 years

For over 40 years, we've been building a global production and business network to become one of the world's foremost construction equipment manufacturers.

A solid partner, close to you

A truly global player in every respect, we have large-scale factories, sales subsidiaries and dealers all over the world.



Doosan facilities in Europe

▣ From machine manufacturer... to full solution provider

To ensure the highest trade-in and residual values, our parts and service support professionals maintain the performance, productivity and reliability that you expect of our products throughout their lifetime.

▣ Ask your dealer for a full range of services designed especially for you!

As your local specialist, your dealer ensures that you receive the maximum benefit from our integrated package. Plan ahead to ensure the success of your equipment!



Doosan approved attachments



Genuine parts



Extension of warranty



Financial solutions



Maintenance contract



Telematics



Monitoring systems



▣ Experience the Doosan product range!



Articulated Dump Trucks



Wheel Loaders



Wheeled Excavators



Mini Excavators



Crawler Excavators

Raise productivity, fuel-efficiency & profits

► Productivity

Thanks to their robust design and the use of high-quality components, the Doosan wheel loaders deliver very high performance – ensuring you the best productivity and reliability.

⊗ **Z-bar:** "Z" kinematic delivers a huge break-out force, especially for heavy materials, and a large dump angle for unloading sticky materials efficiently.

⊗ **Worktools:** Wide range of heavy-duty attachments to answer all of your needs.

⊗ **Linkage:** Direct mount for the best performance or via a hydraulic quick coupler to change & lock work tools quickly and safely from inside the cab.

⊗ **Simplicity of operations:** "Lift arm raise kick-out" and "return to dig" bucket – Automated functions operated electronically from inside the cab.

⊗ **Versatility:** 3rd valve (standard) increases the versatility of your investment.

⊗ **Load Isolation System:** Ride control (standard) reduces pitch effect and vibrations to provide the most comfort.

⊗ **Automatic differential lock:** Limited slip or hydraulic lock – the machine delivers all of its performance, while preserving fuel consumption and reducing wear on the tyres.

⊗ **Hydraulic system:** Load sensing closed centre system provides the operator with precision & smoothness while reducing fuel consumption.



Total cost of ownership ▲

Ⓢ **Safety:** Always a critical factor for your company and your employees – so, these machines feature large platforms, hand-rails, and 2 emergency exits, with maintenance performed from the ground.

Ⓢ **Spacious cab:** Operator enjoys comfortable driving, with many ergonomic features as standard.

Ⓢ **Power:** Exceptionally powerful, with high torque at low revs, the Stage IV compliant Scania engines do not need a Diesel Particulate Filter (DPF) and associated regeneration system, so they deliver greater fuel efficiency.



DOOSAN CONNECT

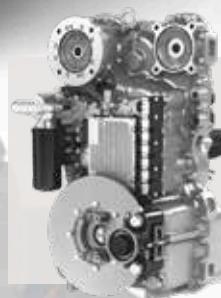
Ⓢ **Telematics:** Monitor your fleet online. As standard, Doosan Connect system with dual mode (satellite, GSM). Check productivity, fuel consumption, system warnings, maintenance status, etc.

Ⓢ **Efficient fuel management:** This generation of Scania engines enables up to 10% fuel reduction. Engine shut-off provides an additional max. 5% reduction.

Ⓢ **Cooling performances:** Cooling compartment separated from the engine compartment to prevent warm and dusty air from entering and to allow better control of air intake. Automatically reversing fan as standard.

Ⓢ **Full fenders:** As standard, to keep your machine clean and your operators even safer.

Ⓢ **Serviceability:** Spacious access to main components allows quick and easy daily maintenance.



Powertrain: CVT (Continuously Variable Transmission). Hydrostatic and mechanical power split transmission ensures significant fuel consumption savings of up to 15%. Enables carrying high loads at low engine speeds in combination with high dynamics.

Top performance and fuel efficiency



Strength and intelligence – a winning combination!

Exceptional power – combined with the finest workmanship – results in a machine that performs at the highest level. The DL420CVT-5 enhances your output from every angle:

- Impressive breakout force and high traction make penetration easy and allow you to tackle the hardest materials
- Powerful hydraulic system makes work quick and efficient
- Scania DCo9 engine with SCR technology provides the power you need while meeting Stage IV environmental regulations

The combination of these features gives Doosan wheel loaders excellent penetration power, ensuring optimum bucket load in each cycle.



New engine – lower emissions / higher torque

The DL420CVT-5 is equipped with Scania engines. Renowned for excellent fuel efficiency, reliability and long service life, they combine exceptional power output with high torque at low revs. For faster machine response – even at very low speed – XPI (extra-high pressure injection) common-rail fuel injection (2400 bar) is combined with a Variable Geometry turbocharger.

Selective Catalytic Reduction (SCR) technology, combined with a Diesel Oxidation Catalyst (DOC), ensures compliance with Stage IV environmental regulations. As there is no need for a particulate filter, there is no need for regeneration.



Tailored performance

You can select from 2 different working modes: Eco and Standard, while the Power-up function lets you switch the machine into a higher working mode with lower transmission shift intervals by fully applying the acceleration pedal.

Save fuel, save money

To improve your fuel efficiency, an auto shut-down reduces the idle time of the engine, to prevent the over-consumption and useless operating hours. You can easily set the auto shut-down (to stop the engine after 3 to 60 minutes) via the LCD display.

Transmission

The Doosan ZF Continuously Variable Transmissions clearly demonstrate their benefits in all ranges of the typical wheel loader operating cycle, i.e. during bucket-filling, transporting and loading. Hydrostatic-mechanical power splitting in all driving ranges, including the frequently used range up to 10 km/h.

Load sensing hydraulic closed centre system

This system provides maximum hydraulic performance, without producing excess capacity, thus saving fuel and extending the lifetime and reliability of vital components (such as the pumps and the main control valves).



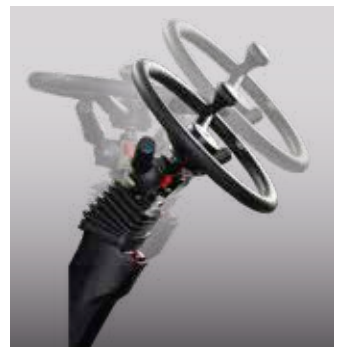
The complete driving range, forward and in reverse, is controlled by continuously variable transmission (CVT). Low engine speeds ensure high efficiency and the highest driving comfort irrespective of the traction speed. The power splitting continuously variable technology facilitates moving off softly and hydraulically. Furthermore, with the CVT a fuel saving of up to 15% can be achieved.

Operating in comfort

▣ Comfort – why do without?

The productivity of your wheel loader is directly linked to the operator's performance. That's why Doosan has placed comfort at the very centre of its design priorities for the DL420CVT-5.

More space, better visibility, a high comfortable seat, and plenty of storage space make it easy to work for hours without fatigue or discomfort. And there's no need to pay extra for the options you want – most of them are standard features on this loader!



Operator environment

A modern and attractive work space offers generous head room, and seat movement provides lots of leg room. Interior materials are selected for their high quality and easy cleaning. In addition, your belongings are right at hand, thanks to several storage boxes throughout the cab.

Comfortable automatic lift arm

Save time and reduce the number of operations with the "lift arm raise kick-out" and "return to dig" system. These functions are operated electronically from inside the cab.

High-comfort air suspension seat

With vertical and horizontal suspension, the ultra-comfortable, heated and fully adjustable Grammer seat is featured as standard, giving you the feeling of being comfortably installed in your own sofa.

Load Isolation System

This standard feature provides a smooth ride over rough ground, operator comfort, and reduced cycle times due to improved vehicle stability in movement. Higher productivity and better fuel efficiency while performing load & carry applications. Speed for automatic activation is adjustable by the operator.

Accurate & smooth joystick steering

Keep your concentration and reduce strain with the comfortable joystick steering integrated on the armrest. Drive your machine easily, especially in repetitive tasks and tight spaces.

Automatic air conditioning

Day and night, whatever the weather, set your preferred temperature for the best working conditions. Fully automatic climate control system adjusts air temperature and fan speed to maintain your ideal climate setting.

Adjustable steering column

Enhance your driving comfort, and work without fatigue, by easily adjusting the steering column's tilt and telescopic movements to fit your preferred position.

Colour LCD monitor panel

The 5.7" LCD panel is suitable for day and night work. The user-friendly monitor has two customisable screen displays (per operator's preference), giving full access to machine settings and maintenance data. Any abnormality is clearly displayed on the screen, allowing you to work safely and confidently with an accurate overview of all conditions.



1. Radio
2. Climate control HVAC
3. Rear camera colour display
4. Storage for sunglasses & sun visor
5. Opening emergency exit
6. Large ergonomic control armrest
7. New joystick with thumb wheel for 3rd spool control or fingertip control
8. Colour LCD monitor panel
9. Multi-settings high-comfort air-suspension seat

10. Large storage compartments
11. Large ergonomic pedals
12. F/R & Electric steering unit on left armrest
13. Fire extinguisher location
14. Fuse box
15. Flat, spacious, easy to clean floor
16. Emergency engine stop switch

Expert control with maximum safety

▣ Safe operation in all simplicity

Power alone is not enough – for maximum efficiency, it needs to be matched by precise control. Our unique range of features allows every operator to get the most out of these impressive machines.

Safety is crucial to your company and your employees – so, Doosan machines feature large platforms, hand-rails, and 2 emergency exits, with maintenance performed from the ground.



Rear view camera

A camera provides a clear view of what's happening behind the machine for added safety and peace of mind. The full colour display screen in the cab shows the operator what the camera sees. The panoramic view shows trucks coming up behind the loader or people on the ground, and some indicators provide a good perception of distances.

External mirrors

The external mirrors are heated to ensure visibility and prevent accidents in cold weather. Circular convex mirrors make maneuvering easy and safe.

Full fenders

To keep them clean and avoid mud splashing on the windows or accidents on slippery steps, Doosan's wheel loaders are standard equipped with full fenders and mud guards.

Cab

To ensure a healthy work environment, the cab air is filtered twice to eliminate all particles larger than 2 microns. Plus, the cab satisfies ROPS/FOPS regulations – a wide emergency exit (located on the right side) provides fast, easy evacuation in a critical situation.

Safe maintenance

All the daily gauges checking takes place from the ground, to be operate quickly and safely by everyone.

Doosan has also installed an automatic greasing system (as standard) to reduce working time and increase operating comfort.

Safe access

To facilitate access and mobility on the machine, multiple hand-rails ensure that the operator always has a firm support to hold on to.

Driving assistance

- Continuously Variable Transmission
- Automatic transmission kick-down
- Automatic Hydraulic Differential Lock (HDL)
- Automatic Lift-arm Suspension (LIS)
- Automatic kick-out function on lift arm
- Automatic return to dig position
- Automatic reversing fan
- Automatic greasing system



Joystick steering



Joystick configuration

Ergonomic controls: All controls are placed within the operator's easy reach. Clearly positioned for comfortable access, and grouped by function, they enable safe, confident operation. The bucket is controlled by using a convenient joystick or with fingertip levers. Both include an FNR reversing switch and kick-down function.

Reliability, the habit of a lifetime

▣ Dependable performance for low lifetime cost

Doosan has been building heavy construction equipment for 40 years. This extensive experience is reflected in the superior design and development of our wheel loaders and by an extensive logistics network. Plus, our standard machines include a wide range of features at no extra cost (other manufacturers offer these only as options).



Designed to last

We pay the closest attention to the design and manufacture of structural components. Finite Element Analysis is used to ensure an extended lifetime for main structures such as the chassis, joints and lift arm. Then, after modelling, they are subjected to intensive laboratory and field testing in extreme conditions. Ongoing statistical analysis is used to continually increase reliability.

Durable steel parts

Rear parts – such as the radiator grille, engine bonnet and fenders – are made of solid steel. They're also designed for easy repair, reducing the need to replace them if they are damaged.

Limited slip differentials

Limited slip differentials at the front and rear automatically ensure maximum traction and easy driving over soft and muddy ground with no need for a manual differential lock. They also reduce the risk of skidding and prevent excessive tyre wear. An optional hydraulic differential-lock can be activated automatically if one tyre starts to slip. The outboard disc brakes enable easy service without dismantling the axles.

Articulation hinges

The robust hinges feature a clean and solid design – and the 40° articulation angle and steering radius are the best in their class.

Exhaust

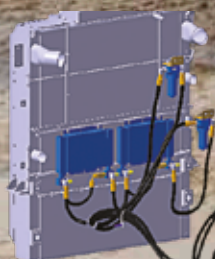
The inner exhaust pipe sucks air out of the engine compartment through an outer pipe – this "chimney" effect provides constant air circulation and prevents deposits of flammable material on hot parts.

Auto-lube

The DL420CVT-5 is standard equipped with an automatic central greasing system: 'Auto-lube' protects components for longer machine lifetime.

ORFS (O-Ring Face Seal)

All hydraulic lines, even the low pressure circuits, are sealed with ORFS couplings to prevent leaks.



Axles cooler: To ensure you the maximum performances from your machine, even in very hard applications, the axles could be equipped with an oil cooling system and thus ensure proper operation in any conditions.

Simple maintenance with maximum uptime

■ Excellent service accessibility

Short maintenance operations at long intervals mean you can depend on your equipment being available on-site when it's needed. Our machines are designed for simple routine maintenance, while skilled Doosan technicians are available to provide extra support when you need it. To get the most out of your machine, you can choose the package you need from a broad range of service agreements. Uptime, productivity and residual value are all maximised, making these wheel loaders an economical and rewarding choice.

Building further on the success of the Stage IIIB engines, the Doosan DLo8 Stage IV engine does not need a DPF filter to meet the Stage IV emissions requirements. Which means no maintenance required – resulting in more uptime!



Maintenance access made simple

- The front and rear of the radiator – which is made of aluminium for the highest pressure resistance and a long lifetime – are easily accessible
- Air enters through the sides and top. Swing doors provide easy access for maintenance
- A battery cut-off switch makes it easy to disconnect the battery during long-term storage
- The hour meter display can be easily checked without turning the engine on

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.

Engine

The Scania EMS (Engine Management System) uses a CAN (Controller Area Network) to provide a constant flow of operating information as well as diagnostic and ECU programming functions.

Urea tank

Connected to the ECU, sensors in the tank detect low levels of AdBlue® and any system malfunction.

Transmission

No wear from heavy loads as there is no mechanical connection between engine and driveline.

Global Doosan network

With a network of Doosan dealers & Parts Distribution Centres worldwide, your Doosan wheel loader can be serviced & maintained wherever you are. Our service centre in the heart of Europe has more than 40,000 parts in stock to supply you with top-quality components as quickly as possible.

Full solution provider

- **DOOSAN/CONNECT** The Doosan Connect Telematic system is available as standard – offering you all of the features for reading out vehicle operating & production parameters remotely, and providing you with total ease-of-mind
- Protection+ : an extended warranty covering parts, travel and service (check with your local dealer)
- Maintenance contract: your dealer will support you with routine service at regular intervals
- Genuine parts: manufactured and tested to ensure they always meet the same high quality standards as the original components

Reversing 90° swing fan

The fan is located behind the radiator, and air is sucked in from the sides, not from behind the machine. Easier cleaning access to one-block radiator from the rear and the front. The operator can easily set standard intervals for fan reverse from the LCD display. Performance is regulated for lower fuel consumption and shorter warm-up periods.



Battery cut-off switch



**Centrifugal pre-cleaner
Top Spin™ from Donaldson®**



Drains



Wheel chocks

Technical specifications

Engine

Scania Stage IV (Tier 4 final) compliant diesel engine fully meets the latest emissions regulations. XPI (Extra High Pressure Injection) direct injection ensures very good fuel efficiency. Variable geometry turbocharger delivers high power and strong torque, even at low idle. Electronic engine controls optimise machine performance and manage the catalytic operations by a Diesel Oxidation Catalyst (DOC) and a Selective Catalytic Reduction (SCR).

DL420CVT-5	
Model	Scania DCO9
Regulation compliant	Stage IV
No. of cylinders	5
Nominal power - Gross (SAE J1995)	311 hp (232 kW) at 1800 rpm
Maximum torque - Gross	1830 N.m at 1200 rpm
Idle (low - high)	850 - 1850 rpm
Displacement	9.3 litres
Bore × stroke	130 mm × 140 mm
Starter	24 V - 6 kW
Batteries - Alternator	2 × 12 V, 200 Ah, 100 A 28 V
Air filter	Centrifugal pre-cleaner Top Spin™ Donaldson® with 2-stage dry filter.
Cooling	Cooling package with automatic reversing fan to facilitate radiator cleaning. Automatic rotation speed adjustment according to temperature conditions.

Transmission

The full power-split CVT (Continuously Variable Transmission) technology combines these characteristics with reduced fuel consumption of up to 15%. The transmission operates at low engine speeds, thus increasing efficiency and driver comfort even more. Continuously variable drive over complete drive range forward and reverse, smooth, hydraulic start due to continuously variable power-split technology and high efficiency through low engine speeds, independent of vehicle speed.

DL420CVT-5	
Type	CVT (Continuously Variable Transmission)
Speeds Forward 1-2-3-4	7.2 - 13.6 - 20 - 38.3 km/h
Speeds Reverse 1-2	7.2 - 14 - 20 km/h
Maximum traction	19.06 t
Maximum gradeability	51% / 27°

Axles

Front & rear axles manufactured by ZF with outboard planetary reduction gears. The front and the rear are equipped with Limited Slip Differential (LSD), which means the machine has the optimum traction in all conditions. 19 t traction power allows operation on slopes of 51%.

DL420CVT-5	
LSD lock ratio	30% (front & rear)
HDL lock ratio	100% (front)
Oscillation angle	+/- 12°
Tire size - standard	26.5 R25 (L3)

Hydraulic system

DL420CVT-5	
Type	Load sensing - closed centre hydraulic system
Main pump	Variable displacement axial piston pump
Maximum flow	266 l/min
Maximum pressure	310 bar
Pilot system	Automatic functions for positioning the bucket ready to dig and a function for stopping the lift arm at the desired height, and low position adjusted manually by switch, are standard.
Filtration	In the oil return to the tank, the fibre glass filter has a filtering capability of 10 micron.

Lift arm

Z-kinematics with simple lifting piston system designed for heavy-duty applications. 21.4 ton breakout force combines with a bucket angle that is maintained throughout the range of movement. Bucket angles are optimised in the travelling position and at ground level. Load Isolation System (LIS) is fitted as standard for improved operator comfort, output and lifetime.

► Load cycle

DL420CVT-5	
Lift arm - up	6.0 s
Lift arm - down	3.0 s
Bucket - crowd	2.3 s
Bucket - dump	1.7 s

► Hydraulic cylinders

	Quantity	Bore × rod diameter × stroke (mm)
Lift	2	170 × 105 × 789
Bucket	1	190 × 120 × 590

Brakes

Dual multi-disc circuit with sintered metal discs for extended service life. Braking system activated by a pump and accumulator circuits. Spring-applied, hydraulically released parking brake is mounted on the transmission shaft and accumulator circuits and is electronically activated. Brake type: spring-applied / hydraulically released. Brake pump with variable displacement axial pistons provide 58 l/min. Operator can activate/deactivate the Intelligent Clutch Cut Off on the brake pedal from a switch and can adjust the sensor proximity with the same switch. The emergency brakes are composed of a double system continually under pressure by accumulators.

DL420CVT-5	
Braking distance	7.5 m at 32 km/h
Number of disc brakes per wheel (front / rear)	14 / 14
Accumulators	0.75 l - 30 bar

➤ Cab

Safety compliance with Roll Over Protection System (ROPS) and Falling Object Protective Structure (FOPS) requirements. Spacious modular cab with excellent all-round visibility and ample storage space. Good overview of the bucket, tyres and loading area thanks to wide windows. Pushbutton controlled air conditioning and heating with air recirculation function. Double cab air filter installed in the cab with extra protection for the operator in dusty or polluted environments. Viscous suspension mount for maximum comfort. Adjustable high-quality heated seat with air suspension, arm rests and height and tilt adjustable steering column. All operating information clearly displayed in front of the operator. Control functions are centralised on a console on the right.

	DL420CVT-5
Safety standards	ROPS ISO 3471:2008 FOPS ISO 3449
Door	1
Emergency exits	2

➤ Noise emissions

	DL420CVT-5
A weighted emission sound pressure level at the operator position (ISO 6396)	Declared: 69 dB(A) Measured: 68 dB(A)
A weighted emission sound power level at external position (ISO 6395)	Declared: 105 dB(A) Measured: 104 dB(A)

➤ Fluid capacities

	DL420CVT-5
Fuel tank	289 l
Urea (AdBlue®) tank	38 l
Cooling system	60 l
Engine oil	36 l
Front axle	40 l
Rear axle	40 l
Hydraulic system	220 l
Transmission oil	62 l

➤ Steering system

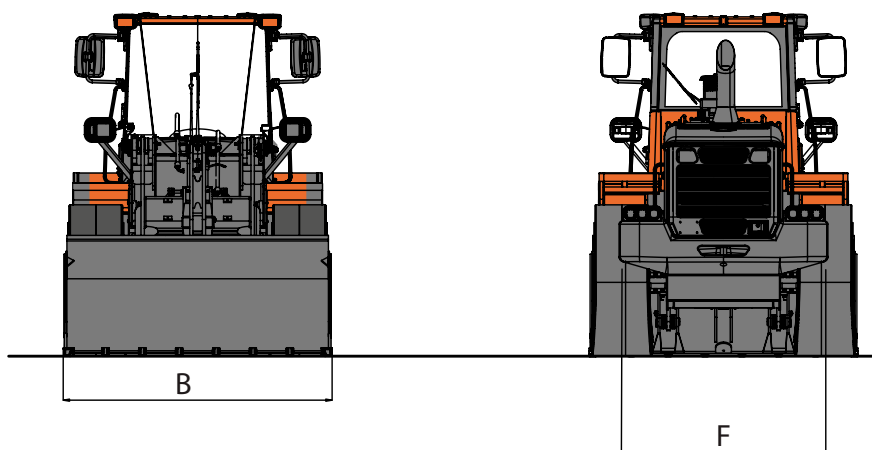
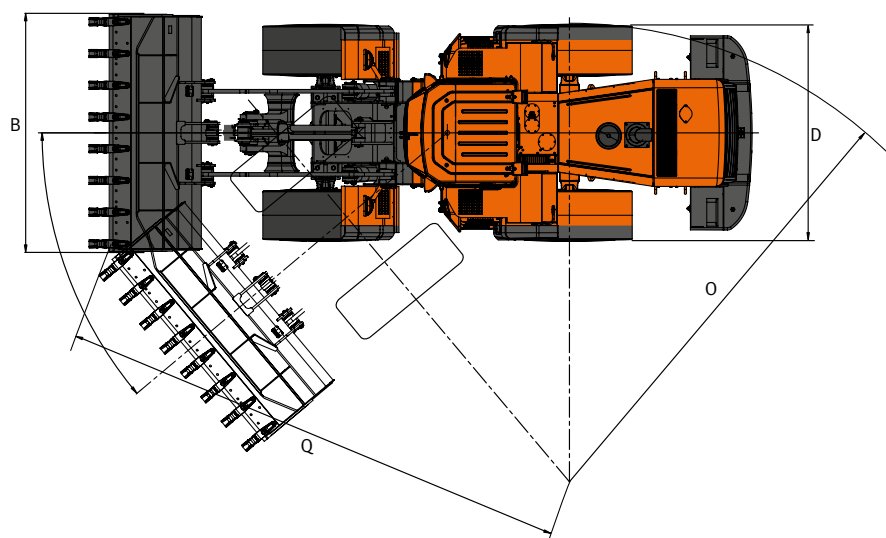
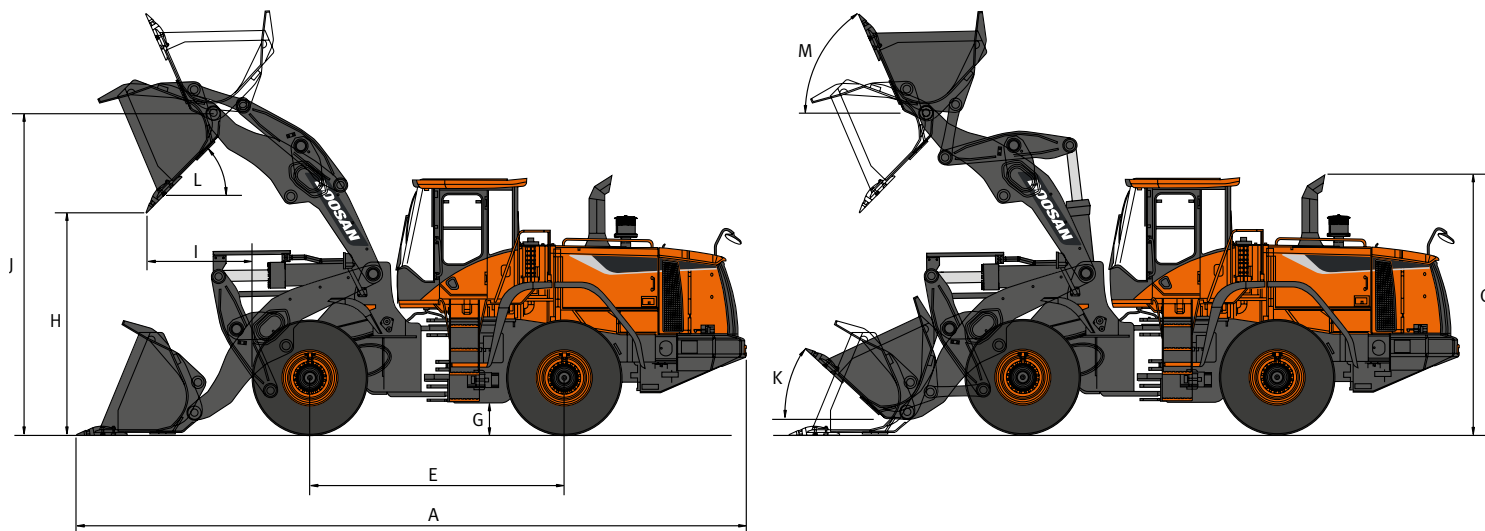
	DL420CVT-5
Type	Load sensing with amplification stage and priority valve
Steering angle	40°
Oil flow	210 l/min
Operating pressure	185 bar
Steering cylinders (2)	Emergency steering system with electric motor-driven hydraulic pump
Bore × rod diameter × stroke	100 × 50 × 442

➤ Pressure settings

	DL420CVT-5
Working (pump cut-off)	310 ± 10 bar
Steering relief – LS port side	185 ± 10 bar
Steering relief – steering pump side	200 ± 10 bar
Pilot control	30 ± 2 bar
Brake accumulator charging	100–160 bar
Service brake	80 ± 3 bar
Fan motor	115 ± 15 bar
Parking brake release	120 ± 5 bar
Transmission selection pressure	18–18 ± 1 bar



Technical specifications



➤ Dimensions and operational data

DL420CVT-5 – Pin-on			General purpose				Rock	Light material	High Lift
Configuration		Teeth	Cutting edge	Teeth	Cutting edge	Teeth & segments	Teeth	Cutting edge	Cutting edge
Capacity heaped ISO/SAE	m ³	4	4.2	3.7	3.9	4.2	3.5	4.5	4.2
B Bucket width	mm	3270	3270	3040	3040	3270	3230	3200	3270
Breakout force	kN	210	210	220	220	220	210	190	201
Static tipping load (straight)	kg	18440	18300	18350	18230	17940	18140	17820	14700
Static tipping load (at full turn)	kg	16280	16155	16200	16090	15840	16060	15830	12980
H Dump height (at 45° – fully raised)*	mm	2945	3075	2945	3075	2945	2882	3009	3585
I Dump reach (at 45° – fully raised)*	mm	1380	1240	1380	1240	1382	1445	1310	1310
Dump height (at max. dump) – (at max. reach)*	mm	615	795	615	795	615	530	705	910
Dump reach (at max. dump) – (at max. reach)*	mm	1420	1360	1430	1370	1430	1455	1395	2090
Digging depth	mm	150	150	150	150	150	150	150	185
J Height at bucket pivot point	mm	4280	4280	4280	4280	4280	4280	4280	4745
Max. tilt angle in carry position	°	48	48	48	48	48	48	48	51
M Max. tilt angle fully raised	°	63	63	63	63	63	63	63	64
K Max. tilt angle on ground	°	44	44	44	44	44	44	44	45
Max. tilt angle at max. reach	°	59	59	59	59	59	59	59	59
Max. dump angle at max. reach	°	74	74	74	74	74	74	74	61
Max. dump angle on ground	°	65	65	65	65	65	65	65	65
L Max. dump angle fully raised	°	46	46	46	46	46	46	46	47
O External radius at tyre side	mm	6570	6570	6570	6570	6570	6570	6570	6570
Q External radius at bucket edge	mm	6970	6955	6860	6845	6930	6875	7035	7035
E Wheel base	mm	3500	3500	3500	3500	3500	3500	3500	3500
D Width at tyres	mm	2985	2985	2985	2985	2985	2985	2985	2985
F Tread	mm	2300	2300	2300	2300	2300	2300	2300	2300
G Ground clearance (at 12° osc.)	mm	478	478	478	478	478	478	478	478
A Overall length	mm	8910	8720	8910	8725	8910	9000	8815	9395
C Overall height	mm	3535	3535	3535	3535	3535	3535	3535	3535
Operating weight	kg	23080	23185	22890	23010	23260	23320	23250	23700

(*): measured to the tip of the bucket teeth or bolt-on edge. Tyre size 26.5 R25 (L3)



Attachments

■ A Doosan attachment for optimum performance in each activity

Robust construction, excellent penetration, covering several types of applications from light- up to severe-duty. These new Doosan loader attachments are designed and manufactured in Europe to meet local requirements and standards. A large range of attachments guarantees versatility and efficiency all the way. Each bucket is designed for a specific machine model to fit its key kinematic parameters perfectly. Critical bucket positions are optimised to improve digging and dumping. The Doosan attachment concept stands for high quality, perfect fit and excellent operational capabilities.



General purpose buckets

General purpose buckets provide good all-round performance for stockpiling and material-handling operations. With its sloped bottom design for optimum bucket filling capabilities and load retention, this is the perfect bucket for day-to-day material handling. It can be equipped with optional teeth, shrouds and cutting edge, depending on the customer's requirements.



Heavy-duty buckets

Heavy-duty bucket suitable for a range of applications that require a robust construction (such as sand handling or occasional severe loading). Parts subjected to high stress – such as the edge, sidebars and corner protections – are made of hardened steel. Optional teeth, shrouds and reversible cutting edge allow you to tailor the bucket to the customer's needs.



V-shape Rock buckets

Used for handling and digging of hard compacted material and blasted rock in mining or quarry applications, where high break-out force is required. Severe digging is no problem for this tough bucket, made entirely of highly wear-resistant steel with a hardness of 420 BHN. Weld-on ESCO® teeth are standard.



Light material buckets

When you need to move large amounts of light material, this bucket is the most profitable and rewarding choice. Its convex sides allow high capacity and avoid material spilling. Comes standard with a bolted reversible cutting edge.



High dump buckets

The high dump bucket is suitable for light material handling applications. This bucket improves the unload height and increases the versatility of the wheel loader. Its convex sides allow high capacity and avoid material spilling. Comes standard with a bolted reversible cutting edge.



Grapple bucket

The grapple bucket is designed to provide good all-round performance for material-handling applications. Depending on the application, the side can be convex for good capacity, or carved to improve the material grip. Different types of grapple available; comes standard with a bolted reversible cutting edge.



Pallet forks

For loading and unloading different types of pallets as well as normal forklift operations.



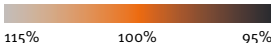
Quick-coupler

Particularly interesting when the machine has a wide variety of jobs to carry out, this hydraulic quick-coupler enables a variety of attachments to be changed quickly and safely.

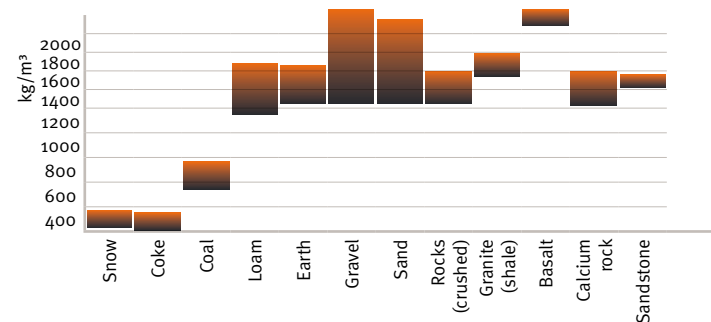
Bucket selection chart DL420CVT-5

Lift arm	Bucket	Type	m³	Material Density [t/m³]															
				1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	
Standard lift arm	General purpose	Adapter Tooth	4.0							4.5 m³					3.8 m³				
		Cutting edge	4.2						4.5 m³				4.0 m³						
		Adapter Tooth	3.7							4.3 m³					3.5 m³				
		Cutting edge	3.9							4.5 m³				3.7 m³					
		Tooth & segment edge	4.2					4.5 m³				4.0 m³							
		Adapter Tooth	4.3				4.9 m³				4.1 m³								
		Cutting edge	4.5			5.2 m³				4.3 m³									
	Rock	V-shape	3.5						4.0 m³					3.3 m³					
	Hard facing (WC)	Adapter Tooth	4.0						4.5 m³				3.8 m³						
		Cutting edge	4.2			4.8 m³				4.0 m³									
High lift arm	General purpose	Adapter Tooth	4.0					4.6 m³				3.8 m³							
		Cutting edge	4.2			4.8 m³				4.0 m³									
		Adapter Tooth	3.7					4.3 m³				3.5 m³							
		Cutting edge	3.9				4.5 m³				3.7 m³								
		Tooth & segment edge	4.2			4.8 m³				4.0 m³									
		Adapter Tooth	4.3		4.9 m³				4.1 m³										
		Cutting edge	4.5		5.2 m³				4.3 m³										
	Rock	V-shape	3.5				4.0 m³				3.3 m³								
	Hard facing (WC)	Adapter Tooth	4.0				4.6 m³				3.8 m³								
		Cutting edge	4.2		4.8 m³				4.0 m³										

Compliant with ISO 14397-1 (2007). The filling factor depends on the type of material, the working conditions and the experience of the operator.

Bucket filling factor 

Density of operating materials



The specific weight of the material largely depends on the level of humidity, the degree of compaction, composition, etc.

Standard and optional equipment

Performances

Scania, Stage IV compliant, SCR, EGR, DOC, water-cooled, diesel engine with Variable Turbo Charger and air-to-air intercooler	●
No DPF	●
Engine mode selector switch (Standard / Economy mode)	●
Power-up pedal function by full stroke of acceleration	●
Auto shut-off engine	●
Fuel heater	○
Automatic hydraulic load sensing system, variable displacement pump	●
Limited slip differential on front and rear axles	●
Hydraulic lock differential on front axle	○
Axle cooling system	○
Counterweight	●
Robust Z bar lifting system	●
High lift loader	○
Quick coupler	○
Wide range of buckets	○

Comfort

Load isolation system (LIS)	●
Automatic lift arm kick-out	●
Automatic return to dig	●
Levelling function	●
3rd hydraulic function	●
Automatic air conditioning with electronic climate control	●
Grammer air-suspension seat with safety belt 2 points	●
Electric joystick steering on armrest	●
Fingertip levers	○
Adjustable steering column (tiltable & telescopic)	●
Tinted safety glass	●
Left sliding window	●
Right opening window (180°)	●
Floor mat	●
Multiple storage compartments	●
Cup holder	●
Loudspeakers and connections for radio	●
Shark antenna for radio	●
Lift arm float kick-out	●
Alternator 28 V / 100 Ah	●
Dashboard monitoring with LCD display (dials, gauges and lamps)	●
Interior cab light	●
Cigarette lighter and 12 & 24 Volt power sockets	●
Weighing system	○

Safety

Emergency steering pump driven by electric motor	●
Full fenders with rubber protection	●
ROPS cab (SAE J 394, SAE 1040, ISO 3471)	●
FOPS cab (SAE J 231, ISO 3449)	●
Double filtered air cab	●
Right opening window (emergency exit)	●
Front and rear wiper and washer	●
Retractable roller sun visor	●
Road lights: low and high beam, tail indicators (front & rear), stop, reversing lights	●
Work lights: 2 LED at the front and 4 at the rear (6 × 70 W)	●
Work lights: 2 xenon at the front and 4 halogen at the rear (6 × 70 W)	○
Reverse travel alarm	●
Rotating beacon	●
Horn	●
Heated external mirrors	●
Interior rear view mirrors	●
Cab top hand rail	●
Anti-slip steps & platforms	●
Step and platform in front of windshield	●
Starting safety system	●
Engine exhaust brake	●
Brake circuits with accumulator	●
Dual service brake pedals	●
Electric parking brake on the transmission, spring-applied hydraulic release	●
Wheel chocks	●

Other

Bottom protection plates	●
Tie hooks	●
Articulation lock in the transport position	●
Towing hitch	●
Tyres 26.5 R25 (L3)	●
Tyres 26.5 R25 (L2)	○
Tyres 26.5 R25 (L5)	○
Automatic lubrication system	●
Hydraulic reversing engine fan	●
Doosan Connect Telematic system	●

Maintenance

Self-diagnosis system & monitoring indicator by the dashboard, plus electronic plug for fast adjustment	●
Fast couplers for hydraulic check	●
External drains for engine oil and coolant changes	●
Bio oil	○
3-year warranty	○
Protection+ warranty	○

Standard: ●
Optional: ○



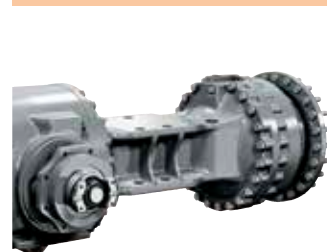
Electric steering



Fingertip control



High lift arm



Differential hydraulic lock



Heavy-duty tyres



Protection+ warranty



Quick coupler



Attachments

Some of these options may be standard in some markets. Some of these options may not be available for certain markets. Please check with your local DOOSAN dealer for more information about availability or to adapt your machine to your application needs.

WORK EFFICIENCY MANAGEMENT

JOB SITE MANAGEMENT

PROACTIVE SERVICE

PREVENTIVE MAINTENANCE

OPERATION TREND

Total operation hours and operation hours by mode

FUEL EFFICIENCY*

Fuel level and fuel consumption

LOCATION

GPS and geo-fence

REPORTS

Operation report & utilization

WARNING & ALERT

Detect machine warnings, antenna disconnection, and geo/time fence

FILTER & OIL MANAGEMENT

Preventive maintenance by item replacement cycle

TELEMATICS TERMINAL

Terminal device is installed and connected to a machine to get machine data.



TELECOMMUNICATION

Doosan provides Dual mode (Mobile, Satellite) communication to maximize communication coverage.



DOOSANCONNECT WEB

Users can monitor machine status from DoosanCONNECT Web.



DOOSAN