

# DOOSAN

Wheel Loaders |  
DL420-5 / DL450-5



Maximum power: 345 hp / 345 hp  
Operating weight: 22930 kg / 25730 kg  
Bucket capacity: 4.2 m<sup>3</sup> / 4.5 m<sup>3</sup>



# 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 operation:** "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 tires.

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



## Total cost of ownership ▲

Minimizing your operating costs is at the heart of the Doosan wheel loader's design, every day.

☉ **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.

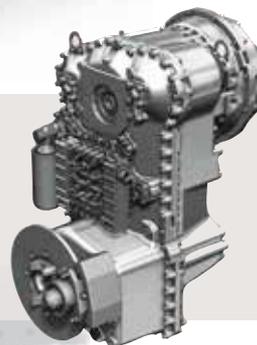
As standard, Doosan Connect system with dual mode (satellite, GSM). Check productivity, fuel consumption, system warnings, maintenance status, etc.

☉ **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.

☉ **Axle oil cooling system:** Feature available to ensure maximum performance even in extreme conditions.



**Powertrain:** 5-gear ZF PowerShift transmission, with automatic and manual shift modes, plus torque converter with "lock-up" function for lower fuel consumption and an impressive speed in climb.

# 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 DL420-5 & DL450-5 enhance 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 DC13 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 DL420-5 and DL450-5 are equipped with a Scania engine. Famous for excellent fuel efficiency, reliability and long service life, it combines exceptional power output and high torque at low revs. Common-rail fuel injection is combined with a Variable Geometry Turbocharger for faster machine response, even at very low speed.

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 3 different working modes: Eco, Normal and Power, 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 engine's idle time to prevent 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.

### ECO gauge

Shows the average fuel efficiency for 1 minute of operation.

### Transmission

The Doosan ZF transmission has 5 gears (depending on the country) to boost acceleration performance, especially on climbs with the lock-up. The gear ratios are optimized and smooth, and shock-free shifts contribute to the high overall level of operator comfort. Traction force is also maximized.

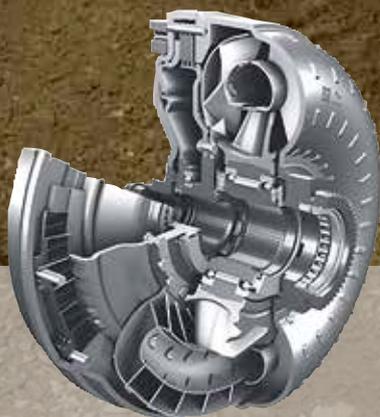
Together, these qualities enable high working speed in all conditions. The transmission has 3 operating modes:

- Manual
- Automatic (working, 1<sup>st</sup> to 5<sup>th</sup> gear)
- Automatic (travelling, 2<sup>nd</sup> to 5<sup>th</sup> gear)

An automatic kick-down improves the machine's penetration into the pile.

### Load-sensing hydraulic closed center 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).



**Lock-up:** The DL420-5 & DL450-5 also feature torque converter lock-up. When this is activated, the engine automatically connects directly to the transmission (depending on speed and travel resistance), even from 2nd gear. The transmission receives the full engine power without hydraulic slip – thus increasing speed on slope dramatically.

This feature can save you up to 10% in fuel costs.

# 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 center of its design priorities for the DL420-5 & DL450-5.

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. Different types of control are available, joystick with FNR and proportional thumbwheel for auxiliary hydraulic line, or fingertip control levers with FNR as well.

### 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.

### Color LCD monitor panel

The 5.7” LCD panel is suitable for day and night work. The user-friendly monitor has two customizable 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. Color rear-view camera
2. Emergency exit
3. Cup holders and a lot of other storage space in the cab
4. Intuitive and grouped controls
5. Fully adjustable console with right armrest and joystick
6. Color LCD monitor panel
7. Steering wheel adjustable in all directions
8. Electric joystick steering with F/R on left armrest
9. Premium heated air-suspension seat with many set-up options
10. Fire extinguisher bracket

# 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, these 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 color 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.

### 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

Daily checking of all gauges takes place from the ground for quick and safe operation 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

- Automatic transmission with smooth shift transition
- Automatic transmission kick-down
- Automatic Hydraulic Differential Lock (HDL)
- Automatic Load Isolation System (LIS)
- Automatic kick-out function on lift arm
- Automatic return to dig position
- Automatic reversing fan
- Automatic greasing system
- Automatic lock-up on torque converter



Electric joystick steering



Fingertip levers

**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 tire wear. An optional hydraulic differential-lock can be activated automatically if one tire 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 DL420-5 & DL450-5 are 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.

### Engine pre-cleaner

This basic cyclone-separator type feature separates more than 99% of 20 micron and larger particles. In addition to extending the air filter's lifetime, it also ensures better combustion and a longer engine lifetime.



**Axle oil cooler system:** To ensure maximum performance from your machine, even in very hard applications, the axles can be equipped with an oil cooling system to 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 maximized, making these wheel loaders an economical and rewarding choice.

Building further on the success of the Stage IIIB engines, the Stage IV Scania 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.

### Global Doosan network

With a network of Doosan Dealers & Parts Distribution Centers worldwide, your Doosan wheel loader can be serviced & maintained wherever you are. Our service center 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

- The Doosan 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.



Wheel chocks



Battery cut-off switch



Centrifugal pre-cleaner  
Top Spin™ Donaldson®



Easy maintenance access

# Technical specifications

## Engine

Scania Stage IV (Tier 4 final) compliant diesel engine fully meets the latest emissions regulations.

XPI direct injection (Extra high Pressure Injection) ensures very good fuel efficiency. Variable Geometry Turbocharger (VGT) delivers high power and strong torque, even at low idle.

Electronic engine controls optimize machine performance and manage the catalytic operations by a Diesel Oxidation Catalyst (DOC) and a Selective Catalytic Reduction (SCR).

	DL420-5	DL450-5
Model	Scania DC13	
Regulation compliant	Stage IV	
No. of cylinders	6	
Nominal power - gross (SAE J1995)	345 hp (257 kW) at 1800 rpm	
Maximum torque - gross	1600 Nm at 1300 rpm	1600 Nm at 1400 rpm
Engine speed (auto-idle - idle - high)	750 - 950 - 2130 [±20] rpm	750 - 950 - 2200 [±20] rpm
Displacement	12.7 litres	
Bore × stroke	130 mm × 160 mm	
Starter	24 V - 6 kW	
Batteries - alternator	2 × 12 V, 200 Ah - 28 V, 100 A	
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

5-Gear powershift transmission with 3 operating modes: manual, fully automatic or semi-automatic with "kick-down" function.

Based on high-quality components. Equipped with a modulation system for protection and smooth gear and direction changes. A manual transmission control lever is located to the left of the steering wheel. Direction change function also available in automatic or semi-automatic mode. Transmission can be disengaged by the brake pedal to deliver full engine power to the hydraulics system. A safety device prevents the engine from starting if the transmission is not in neutral. Torque converter lock-up function from 2<sup>nd</sup> to 5<sup>th</sup> gear. Transmission testing and adjustment equipment available.

	DL420-5	DL450-5
Type	5-speed auto-powershift with lock-up	
Torque converter	Simple stage / mono phase / fixed wheel stator	
Speeds - Forward 1-2-3-4-5	7.0 - 12.0 - 18.5 - 26.5 - 37.0 km/h	6.5 - 12.0 - 19.0 - 26.5 - 37.0 km/h
Speeds - Reverse 1-2-3	7.0 - 12.0 - 18.5 km/h	6.5 - 12.0 - 26.0 km/h
Maximum traction	22.4 t	23.6 t
Maximum gradeability	51% / 27°	58% / 30°

## 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.

From 22.4 t to 23.6 t traction power allows operation on slopes of 27° to 31°.

	DL420-5	DL450-5
LSD lock ratio	30% (Front & Rear)	
HDL lock ratio	100% (Front)	
Oscillation angle	+/- 12°	+/- 11°
Tire size - standard	26.5 R25 (L3)	

## Hydraulic system

	DL420-5	DL450-5
Type	Load sensing - closed center hydraulic system	
Main pump	Dual variable displacement axial pistons pumps	
Maximum flow	476 l/min	476 l/min
Maximum pressure	315 bar	315 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. 20.1 & 23.1 tons breakout force combined with a bucket angle that is maintained throughout the range of movement. Bucket angles are optimized 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

	DL420-5	DL450-5
Lift arm - up	6.0 s	6.1 s
Lift arm - down		3.0 s
Bucket - crowd		2.3 s
Bucket - dump	1.7 s	1.6 s

### Hydraulic cylinders

	Quantity	DL420-5 Bore × rod diameter × stroke (mm)	DL450-5 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 60 l/min.

Operator can activate/deactivate the 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.

	DL420-5	DL450-5
Braking distance	7.5 m at 32 km/h	9.0 m at 36 km/h
Number of disc brakes per wheel (front / rear)	14 / 14	9 / 9
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, tires and loading area thanks to wide windows. Push-button 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 centralized on a console on the right.

	DL420-5	DL450-5
Safety standards	ROPS ISO 3471:2008 FOPS ISO 3449	
Door	1	
Emergency exits	2	

## ➤ Noise emissions

	DL420-5	DL450-5
A weighted emission sound pressure level at the operator position (ISO 6396)	Declared: 72 dB(A) Measured: 71 dB(A)	Declared: 73 dB(A) Measured: 72 dB(A)
A weighted emission sound power level at external position (ISO 6395)	Declared: 106 dB(A) Measured: 105 dB(A)	Declared: 106 dB(A) Measured: 104 dB(A)

## ➤ Fluid capacities

	DL420-5	DL450-5
Fuel tank	278 l	319 l
Urea (AdBlue®) tank		60 l
Cooling system		52 l
Engine oil		38 l
Front axle		42 l
Rear axle	40 l	42 l
Hydraulic system	250 l	275 l
Hydraulic tank		126 l
Transmission oil		54 l

## ➤ Steering system

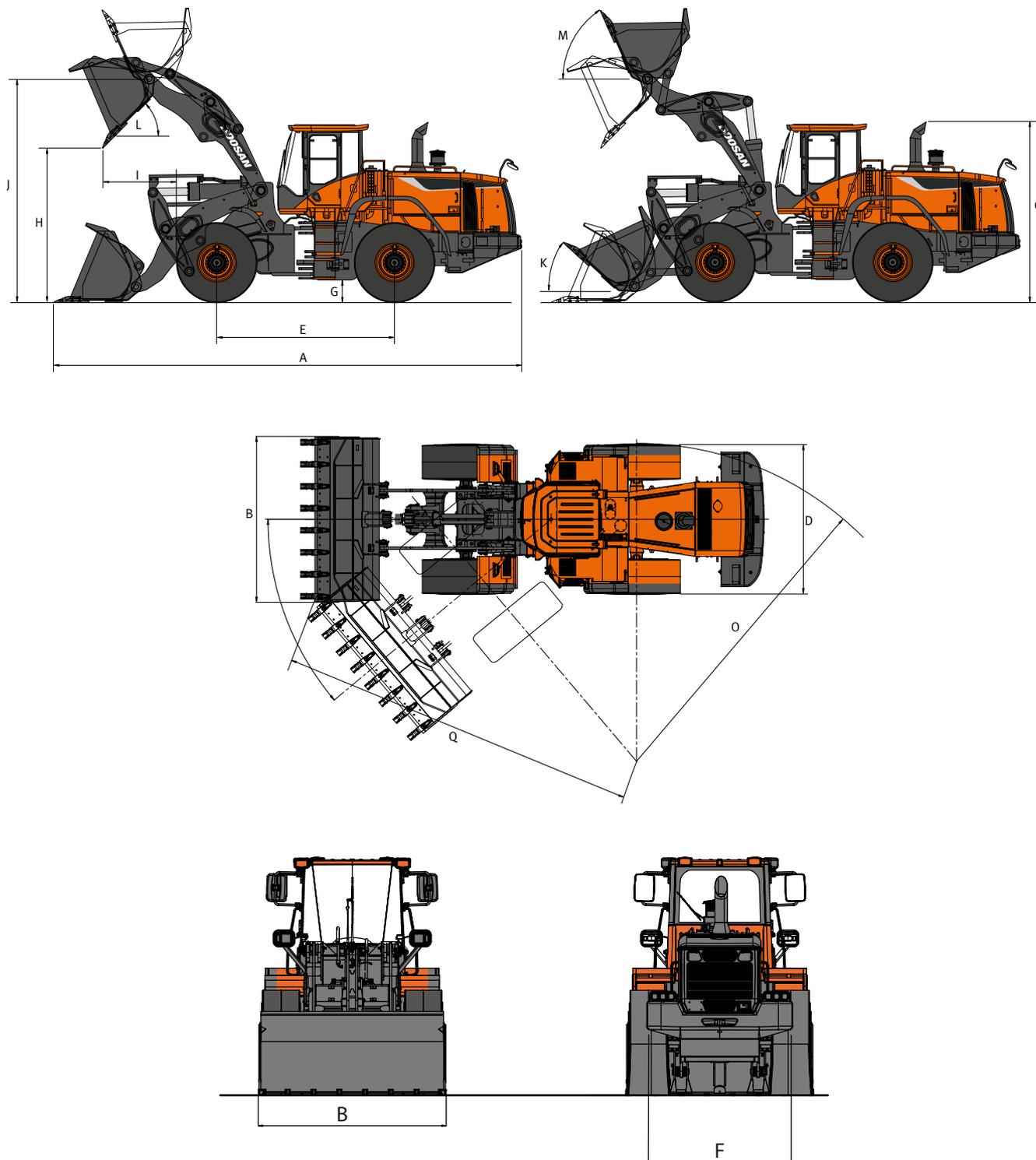
	DL420-5	DL450-5
Type	Load sensing with amplification stage and priority valve	
Steering angle	40°	
Oil flow	210 l/min	
Operating pressure	185 bar	200 bar
Steering cylinders (2)	Emergency steering system with electric motor-driven hydraulic pump.	
Bore × rod diameter × stroke	100 × 50 × 442	100 × 50 × 450

## ➤ Pressure settings

	DL420-5	DL450-5
Working (pump cut-off)		315 ± 10 bar
Steering relief – LS port side	185 ± 10 bar	185 ± 5 bar
Steering relief – steering pump side		200 ± 10 bar
Pilot control	30 ± 10 bar	30 ± 2 bar
Brake accumulator charging		100–160 bar
Service brake		80 ± 3 bar
Fan motor		150 ± 10 bar
Parking brake release		120 ± 5 bar
Transmission selection pressure		17 ± 1 bar



# Technical specifications



## ➤ Bucket selection chart DL420-5 & DL450-5

	Fill factor	Material density
Earth or Clay	115%	1.4-1.7
Sand or Gravel	110%	1.5-1.8
Aggregate	105%	1.6-1.7
Rock	< 95%	1.7

## Dimensions and operational data DL420-5

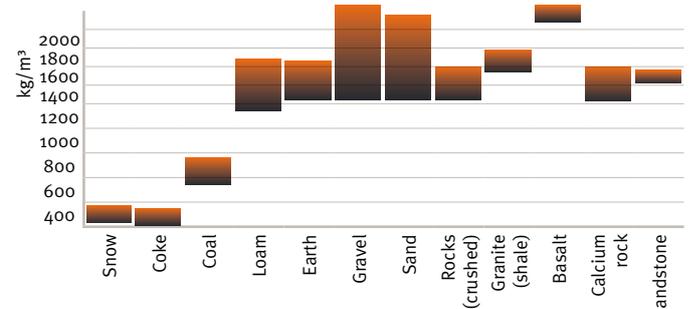
DL420-5 – Pin-on		Rehandling configurations				General purpose configurations				Rock	High Lift	QC	
Ground Engaging Tools		Bolt-on cutting edge				Teeth				Teeth			
Configuration		Straight sides	Convex sides	Straight sides	Convex sides	Straight sides	Convex sides	Straight sides	Convex sides	Concave sides			
	Capacity heaped ISO/SAE	m³	4.3	4.7	4.5	4.9	4.2	4.5	4.4	4.7	3.5	=	=
	Capacity at 110% fill factor	m³	4.8	5.1	5.0	5.4	4.6	5.0	4.8	5.2	3.9	=	=
B	Bucket width	mm	2995	2995	3200	3200	2995	2995	3200	3200	3230	=	=
	Breakout force	kN	211	210	210	210	211	211	219	210	210	- 8	- 5
	Static tipping load (straight)	kg	18492	18435	8397	18341	18540	18483	18461	18405	18100	- 3615	- 2249
	Static tipping load (at full turn)	kg	16342	16285	16247	16191	16390	16333	16311	16255	15980	- 3175	- 2109
H	Dump height (at 45° – fully raised)*	mm	2909	2909	2941	2941	3044	3044	3076	3076	2882	+ 490	- 166
I	Dump reach (at 45° – fully raised)*	mm	1416	1416	1384	1384	1281	1281	1249	1249	1445	+ 80	+ 166
	Digging depth	mm	150	150	150	150	150	150	150	150	150	+ 35	=
J	Height at bucket pivot point	mm	4280	4280	4280	4280	4280	4280	4280	4280	4280	+ 465	=
	Max. tilt angle in carry position	°	48	48	48	48	48	48	48	48	48	+ 3	=
M	Max. tilt angle fully raised	°	63	63	63	63	63	63	63	63	63	+ 1	=
K	Max. tilt angle on ground	°	44	44	44	44	44	44	44	44	44	+ 1	=
	Max. tilt angle at max. reach	°	59	59	59	59	59	59	59	59	59	=	=
	Max. dump angle at max. reach	°	74	74	74	74	74	74	74	74	74	- 13	=
	Max. dump angle on ground	°	65	65	65	65	65	65	65	65	65	=	=
L	Max. dump angle fully raised	°	46	46	46	46	46	46	46	46	46	+ 1	=
O	External radius at tire side	mm	6570	6570	6570	6570	6570	6570	6570	6570	6570	=	=
Q	External radius at bucket edge	mm	6955	6955	7065	7065	6970	6970	7080	7080	6875	+ 80	+ 40
E	Wheel base	mm	3500	3500	3500	3500	3500	3500	3500	3500	3500	=	=
D	Width at tires edge	mm	2982	2982	2982	2982	2982	2982	2982	2982	2982	=	=
F	Tread	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	=	=
G	Ground clearance (at 12° osc.)	mm	495	495	495	495	495	495	495	495	495	=	=
A	Overall length	mm	8859	8859	8904	8904	9050	9050	9095	9095	9000	+ 697	+ 235
C	Overall height	mm	3535	3535	3535	3535	3535	3535	3535	3535	3535	=	=
	Operating weight	kg	22838	22895	22933	22989	22790	22847	22869	22925	23170	+ 495	+ 882

(\*): All capacities according ISO 7546, with straight blade [measure at the tip of bucket teeth or cutting edge], tires 26.5 R25 (L3), Base EU configuration.

## Dimensions and operational data DL420-5

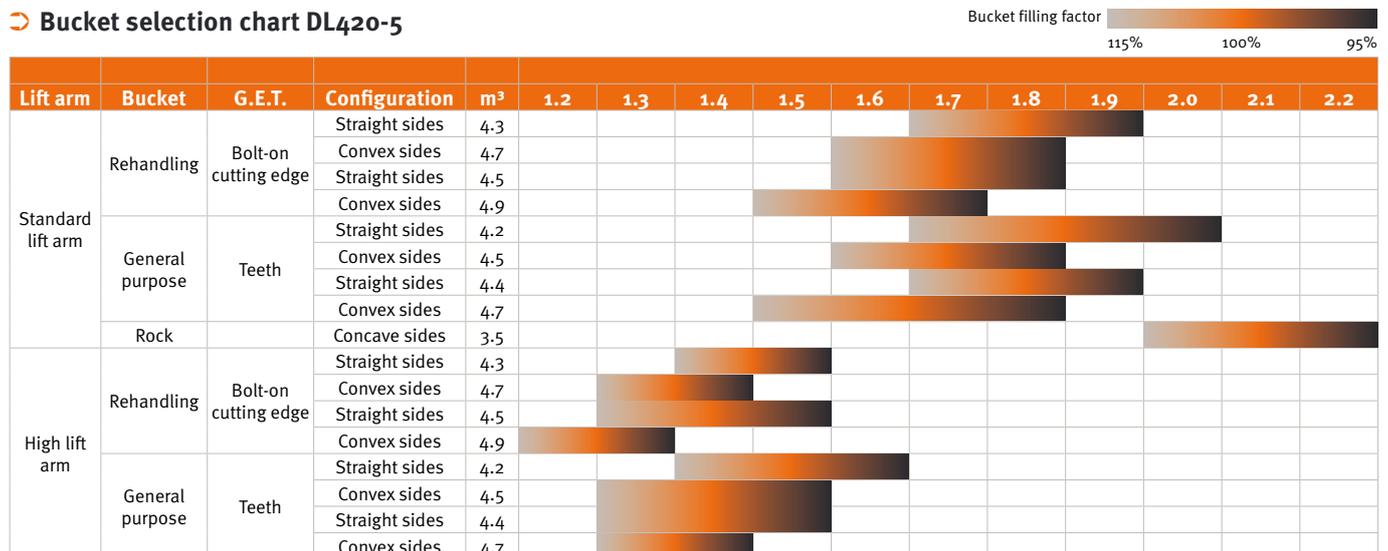
		26.5 R25 L3	26.5 R25 L4	26.5 R25 L5	
	Width at tires edge - Empty	mm	2982	- 2	+ 2
	Width at tires edge - Loaded	mm	3058	- 18	+ 3
C	Overall height	mm	Base	+ 21	+ 26
G	Ground clearance (at 12° osc.)	mm	Base	+ 21	+ 26
J	Height at bucket pivot point	mm	Base	+ 21	+ 26
	Static tipping load (straight)	kg	Base	+ 344	+ 861
	Static tipping load (at full turn)	kg	Base	+ 304	+ 760
	Operating weight	kg	Base	+ 419	+ 1051

## Density of operating materials



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

## Bucket selection chart DL420-5



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

# Technical specifications

## Dimensions and operational data DL450-5

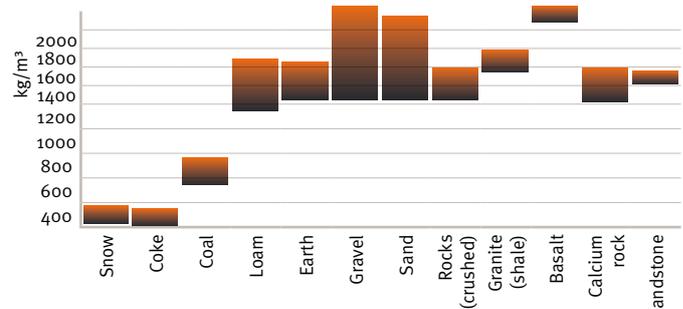
DL450-5 – Pin-on		Rehandling configurations				General purpose configurations				Rock	High Lift	QC	
Ground Engaging Tools		Bolt-on cutting edge				Teeth				Teeth			
Configuration		Straight sides	Convex sides	Straight sides	Convex sides	Straight sides	Convex sides	Straight sides	Convex sides	Concave sides			
	Capacity heaped ISO/SAE	m <sup>3</sup>	4.6	5.0	5.0	5.3	4.5	4.8	4.8	5.2	4.0	=	=
	Capacity at 110% fill factor	m <sup>3</sup>	5.1	5.5	5.5	5.9	5.0	5.3	5.3	5.7	4.4	=	=
B	Bucket width	mm	3300	3300	3300	3300	3300	3300	3300	3300	3340	=	=
	Breakout force	kN	232	231	231	231	232	232	232	231	230	- 2	- 9
	Static tipping load (straight)	kg	20722	20667	20648	20589	20794	20739	20720	20661	20475	- 1026	- 2435
	Static tipping load (at full turn)	kg	18312	18257	18238	18179	18384	18329	18310	18251	18080	- 869	- 2281
H	Dump height (at 45° – fully raised)*	mm	3237	3237	3187	3187	3104	3104	3055	3055	3105	+ 465	- 191
I	Dump reach (at 45° – fully raised)*	mm	1298	1298	1348	1348	1431	1431	1480	1480	1430	+ 210	+ 191
	Digging depth	mm	110	110	110	110	105	105	105	105	165	+ 165	=
J	Height at bucket pivot point	mm	4500	4500	4500	4500	4500	4500	4500	4500	4500	+ 485	=
	Max. tilt angle in carry position	°	50	50	50	50	50	50	50	50	50	+ 1	=
M	Max. tilt angle fully raised	°	66	66	66	66	66	66	66	66	66	- 3	=
K	Max. tilt angle on ground	°	45	45	45	45	45	45	45	45	45	- 1	=
	Max. tilt angle at max. reach	°	71	71	71	71	71	71	71	71	69	- 10	=
	Max. dump angle at max. reach	°	70	70	70	70	70	70	70	70	70	- 6	=
	Max. dump angle on ground	°	69	69	69	69	69	69	69	69	69	+ 2	=
L	Max. dump angle fully raised	°	45	45	45	45	45	45	45	45	45	=	=
O	External radius at tire side	mm	6540	6540	6540	6540	6540	6540	6540	6540	6540	=	=
Q	External radius at bucket edge	mm	7160	7160	7190	7190	7205	7205	7235	7235	7155	+ 215	+ 80
E	Wheel base	mm	3550	3550	3550	3550	3550	3550	3550	3550	3550	=	=
D	Width at tires	mm	2982	2982	2982	2982	2982	2982	2982	2982	2982	=	=
F	Tread	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	=	=
G	Ground clearance (at 11° osc.)	mm	455	455	455	455	455	455	455	455	455	=	=
A	Overall length	mm	9168	9168	9238	9238	9355	9355	9425	9425	9350	+ 627	+ 270
C	Overall height	mm	3583	3583	3583	3583	3583	3583	3583	3583	3583	=	=
	Operating weight	kg	25623	25678	25697	25756	25551	25606	25625	25684	25870	+ 276	+ 1048

(\*): All capacities according ISO 7546, with straight blade [measure at the tip of bucket teeth or cutting edge], tires 26.5 R25 (L3), Base EU configuration.

## Dimensions and operational data DL450-5

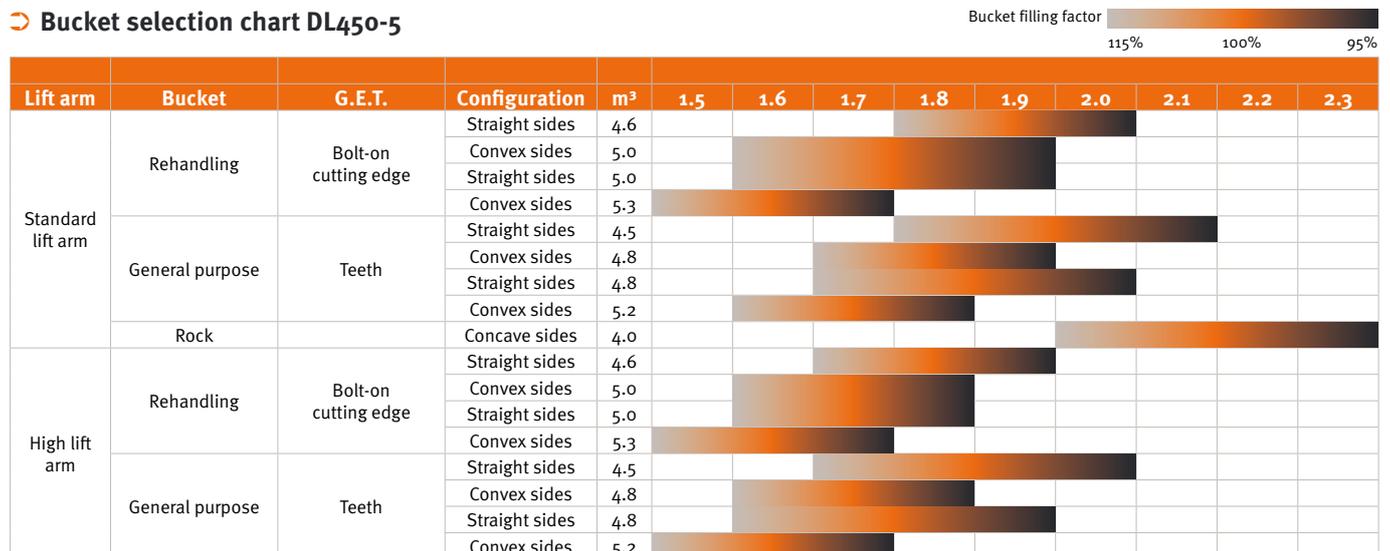
		26.5 R25 L3	26.5 R25 L4	26.5 R25 L5	
	Width at tires edge - Empty	mm	2982	- 2	+ 2
	Width at tires edge - Loaded	mm	3058	- 18	+ 3
C	Overall height	mm	Base	+ 21	+ 26
G	Ground clearance (at 11° osc.)	mm	Base	+ 21	+ 26
J	Height at bucket pivot point	mm	Base	+ 21	+ 26
	Static tipping load (straight)	kg	Base	+ 328	+ 819
	Static tipping load (at full turn)	kg	Base	+ 289	+ 724
	Operating weight	kg	Base	+ 419	+ 1051

## Density of operating materials



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

## Bucket selection chart DL450-5



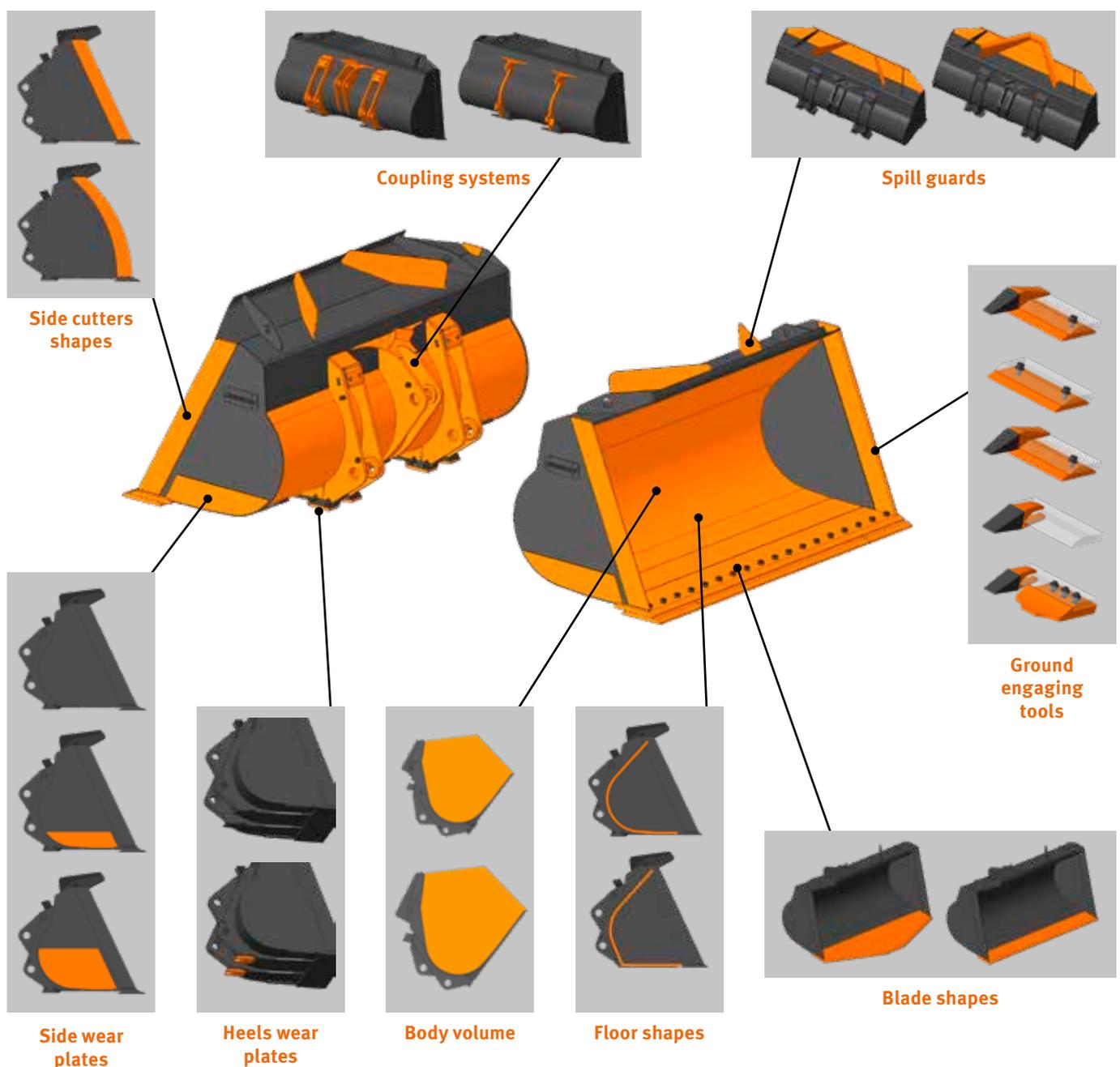
Compliant with ISO 14397-1 (2007). The filling factor depends on the type of material, the working conditions and the experience of the operator.

# Work tools

## ▣ Configurable general purpose buckets

The Doosan range of configurable general purpose buckets offers you the possibility to configure the bucket that matches your application perfectly.

Now, in addition to deciding about teeth or bolt-on edge, you choose the coupling system, floor shape, spill guard type, bucket protection, and blade shape - all according to your needs!



Your Doosan dealer will help you configure your bucket for your application - so that you maximize your productivity, and get the level of protection you need.

# Standard and optional equipment

## Performance

	DL420-5	DL450-5
Scania, Stage IV compliant, SCR, EGR, DOC, water-cooled, diesel engine with Variable Turbo Charger and air-to-air intercooler	●	●
No DPF	●	●
Engine power mode selector switch (Normal / Economy & Power modes)	●	●
Power-up pedal function by full stroke of acceleration	●	●
Auto shut-off engine	●	●
Auto idle function	●	●
Fuel heater	●	●
Torque converter lock-up	●	●
Transmission clutch cut-off via the brake pedal	●	●
Transmission mode selector switch (Manual / Auto 1 ↔ 5 / Auto 2 ↔ 5 with kick-down)	●	●
Automatic hydraulic load sensing system, variable displacement pump	●	●
Limited slip differentials on front and rear axles	●	○
Hydraulic differential lock on front axle	○	●
Counterweight	●	●
Additional 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	●	●
Grammer air-suspension seat with safety belt 3 points	○	○
Electric joystick steering on armrest	○	○
Joystick lever with FNR and thumbwheel roller	○	○
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	●	●
Lift arm float kick-out	●	●
Alternator 24 V / 80 A	●	●
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, front & rear	●	●
Road lights: low and high beam, tail indicators, stop, reversing lights	●	●
Work lights: 2 LED 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	●	●
Anti-slip steps & platforms	●	●
Starting safety system	●	●
Brake circuits with accumulator	●	●
Dual service brake pedals	●	●
Electric parking brake on the transmission, spring-applied hydraulic release	●	●
Wheel chocks	●	●
Handrail on top of the cab and anti-slip platforms on front frame	●	●

## Other

Bottom protection plates	●	●
Tie hooks	●	●
Articulation lock in the transport position	●	●
Towing hitch	●	●
Tires 26.5 R25 (L3)	●	●
Tires 26.5 R25 (L4)	○	○
Tires 26.5 R25 (L5)	○	○

## Maintenance

	DL420-5	DL450-5
Automatic lubrication system	●	●
Hydraulic reversing engine fan	●	●
Doosan Connect Telematic system	●	●
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 or 5 year warranty	○	○
Protection+ warranty	○	○

Standard: ●  
Optional: ○



Electric joystick steering



Fingertip control



High lift arm



Differential hydraulic lock



Heavy-duty tire



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.

\*Functions may not be applied to all models. Please contact your sales representative for more information on this feature.

