

70Z6

70Z6 US TIER 3- CERTIFIED
BUCKET CAPACITY 2.2m³ - 3.3m³
ENGINE POWER 125kW 168HP
OPERATING WEIGHT 14,720kg



WHEEL LOADER

70Z6

made in
Japan **KCM**

Wheel loaders must perform in a wide range of environments. From extreme heat to extreme cold. In dusty conditions and other extreme operating conditions. Owners expect maximum performance and optimum fuel economy from their wheel loaders. The KCM Z6 series of wheel loaders is newly developed using Japanese state of the art engineering. This advanced technology allows the operator to achieve both high performance and excellent fuel economy. In addition, KCM wheel loaders offer outstanding quality, superior cab comfort and long-term durability. All of this in one of the best looking wheel loaders in the industry.



• The machines in the picture may include optional items. Please consult your local distributor for the available optional items.

THE KCM DIFFERENCE

EFFICIENT. POWERFUL. INTELLIGENT. COMFORTABLE

KCM has a long history of pioneering innovation in wheel loaders. As one of the first to adopt Z linkage, KCM has continuously provided the industry with engineering breakthroughs. The Z6 series continues that history with many industry exclusive features. These new designs resulted from input from customers and operators around the world. The Z6 has been engineered from the ground up to be a world class wheel loader.

1. EFFICIENT

The Intelligent Operating System of the Z6 provide faster cycles and reduced operating costs.

2. POWERFUL

Custom Operating Power Modes allow the operator to select the proper power setting to fit his application to provide the best performance and fuel economy.

3. INTELLIGENT

The KCM Intelligent Operating System uses a sophisticated logic based on multiple inputs from machine systems. This system adjusts powertrain and hydraulic components to provide optimum performance in varying working conditions. This allows the Z6 wheel loaders to achieve optimum performance.

4. COMFORTABLE

The new Z6 operator compartment features a low-profile dash, full length glass doors, panoramic front window and well-organized storage areas- plus much more. We have total operator comfort in mind!

PARTNERSHIP

Through our long-term commitment to maintaining a leadership position in technology, service and support, KCM supports an extensive network of independent, local dealers focused on providing you with knowledgeable and experienced sales, service and parts personnel. All backed by dedicated KCM support teams.

Your KCM distributor has the resources, knowledge and personnel to work with you to ensure that you receive the most benefit from your wheel loader investment.



EFFICIENT. POWERFUL

Efficiency is getting the job done with the least amount of waste. The Z6 are very efficient loaders. The hydraulic system is designed for maximum performance efficiency. The systems and controls allow for efficient operation.

Power and productivity are what KCM loaders are famous for. The Z6 has moved to another level in this area. Strong, responsive engines provide the power to get the job done. Powerful hydraulics make the work easy and the productivity high.



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TECHNOLOGY TO CUT FUEL CONSUMPTION

Here are some fuel-saving techniques: avoiding rapid start of travel, and eliminating energy losses during excavation through variable displacement hydraulic pumps.

Fuel Saving

=

**Active Engine
Control System**

+

Quick Power Switch (QPS)

New Transmission

NEW ACTIVE ENGINE CONTROL SYSTEM FOR ECONOMICAL OPERATION AND EASY CONTROL

The "Active Engine Control System" plays a key role achieving a fuel saving. Strategically positioned sensors detect movements throughout the machine and adjust engine speed accordingly to eliminate energy losses to maximize fuel conservation. This delivers smooth, fuel-efficient operation.

NEW ACTIVE ENGINE CONTROL SYSTEM FOR DIGGING

The Active Engine Control System chooses optimal traction power and breakout force for smooth digging while improving fuel efficiency, utilizing data collected from the sensors on the machine.



➔ Choosing optimal traction power and breakout force

Increased operating efficiency

+

Reduced fuel consumption



Active engine control

➔ Excessive traction power by too much pedal depression

Reduced operating efficiency

+

Increased fuel consumption



Conventional

NEW 2 SELECTABLE WORK MODES: STANDARD AND POWER MODES

Standard mode is preselected and enough for ordinary work that requires constant power, such as loading. Power mode is selectable when extra power is needed.



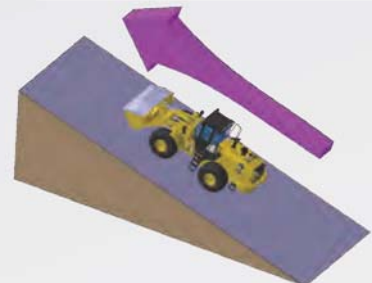
A Power Mode

Select this mode when extra power is needed, such as climbing a steep slope or getting the job done quickly.



B Quick Power Switch (QPS)

Pressing the Quick Power Switch on the lever selects the Power mode. When switching forward/reverse, or when a reduction in traction is detected, the Standard mode resumes automatically. The Quick Power Switch helps save more fuel compared to operation when the Power mode is constantly selected.



NEW NEW TRANSMISSION WITH 5 SPEED GEARS

The new transmission comes standard with the Auto mode* that can automatically select an optimum gear according to the load, thereby reducing fuel consumption. Especially, the new transmission has 5 speed gears which can keep fuel efficient engine rpm more easily compared to the conventional transmission with 4 speed gears.

* AUTO1 (1st-5th gear) and AUTO2 (2nd-5th gear) are selectable using travel mode selector.



Travel mode selector

INTELLIGENT

Intelligence in a wheel loader refers to the programming and processes implemented to adapt to the working conditions, improving efficiency and productivity. The KCM Intelligent system is a family of features that optimize the performance of the loader in any working environment and application.



• The machines in the picture may include optional items. Please consult your local distributor for the available optional items.

LEVERS FOR EASY OPERATION

In order to offer more efficient and comfortable operation, a new type of lever is employed to suit both fingertip control and grip control.

* A variety of lever patterns are available depending on job needs and operator's preference.



Two levers



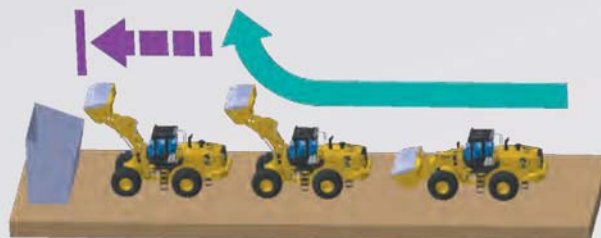
Fingertip control



Grip control

NEW SHIFT CHANGE DELAY MODE FOR FUEL EFFICIENCY AND PERFORMANCE (optional)

Shift change delay mode is provided to avoid an excessive rise in travel speed during digging and loading. When moving forward with the lift arm up, the second gear is kept for four seconds to prevent over-speed. When reversing, the second gear is kept for five seconds. These delays to third gear help to keep fuel consumption down ensuring smooth loading.



LIFTING ARM RESTRICTION VALVE

The lift arm restriction valve reduces the shocks when stopping the arm. This improves comforts of the operator and avoid load spills.

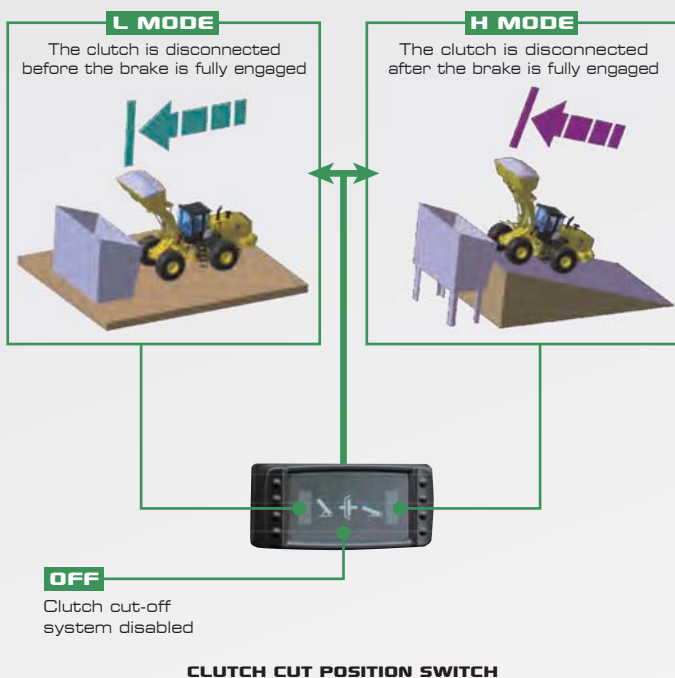


LIFT ARM AUTO LEVELER (optional)

An auto leveler, which has the ability to present the lift arm position, is available as an optional. The operator can concentrate on traveling without worrying about the lift arm height when loading the dump truck or lowering lift arm.

NEW SPEED-RESPONDING CLUTCH CUT-OFF SYSTEM

Clutch cut-off timing is adjusted by sensing travel speed and pedal depression for smooth, efficient truck loading. L mode, H mode and OFF are selectable by switch control according to job requirements.



COMFORTABLE

A comfortable operator is a productive operator. In the KCM Z6s the operator comfort is outstanding. Quiet, convenient, clean and designed for optimum operator comfort, safety and productivity.



• The machines in the picture may include optional items. Please consult your local distributor for the available optional items.



PANORAMIC CAB

The spacious panoramic cab offers near all-round visibility through pillar-less bonded windows. The seat and steering wheel can be adjusted to suit the operator, keeping the operator in an optimum position. In-cab noise is suppressed further. Even when the going gets tough, the operator can feel comfortable with less fatigue.

BI-LEVEL AUTO AIR CONDITIONER

This auto air conditioner has bi-level control function: warming at foot space and cooling at overhead.

The pressurized cab shuts out dust, keeping the cab interior clean.

In dusty environments, optional external double-filters are available for the air conditioner.



COMFORT-DESIGNED SUSPENSION SEAT

The mechanical suspension seat absorbs shocks and vibration from the machine in order to reduce operator's physical stresses to the operator.

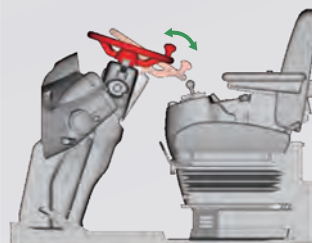
* The air suspension seat is available as an option.



Suspension seat

TILTABLE STEERING WHEEL

The steering wheel is tiltable to fit the wheel to the operator for comfortable operation.



Tilttable steering wheel

AM/FM RADIO WITH 2 SPEAKERS (optional)

The AM/FM radio has an autotuning feature and the 2 speakers stereo system provides excellent sound quality.

The player pocket can hold a cell phone.

* An AUX port (stereo mini jack) is an option for connection with a mobile music player for entertainment during breaks.



AM/FM radio with 2 speakers



Player holder

REARVIEW MONITOR (optional)

The rearview monitor allows the operator to see the rear of the machine, including a view behind the counterweight. This rearview monitor enhances safe operation.



Rearview camera



Rearview monitor

AN ARRAY OF CONVENIENT ACCESSORIES



Storage for small items



Hot and cool box



Large storage space



Glove compartment, cigarette lighter and ashtray



Drink holder

SERVICE SIMPLIFIED

Serviceability and Safety are two key for KCM Z6 Wheel Loader series.

Outstanding serviceability of KCM Z6series reduces maintenance time and costs.

High standards for safety insure confidence in the machine so that maximum productivity is possible.



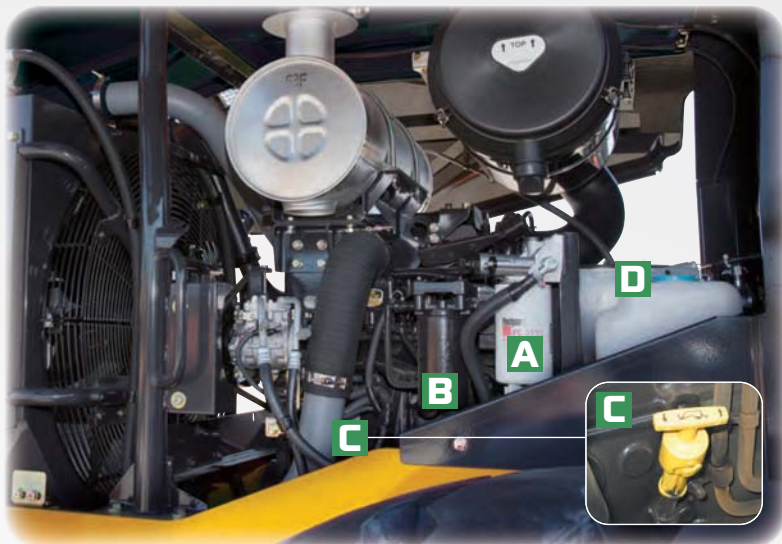
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SIMPLIFIED MAINTENANCE

The engine cover swings up to provide a wide service space.

Filters are concentrated for easy inspection and servicing from the ground.

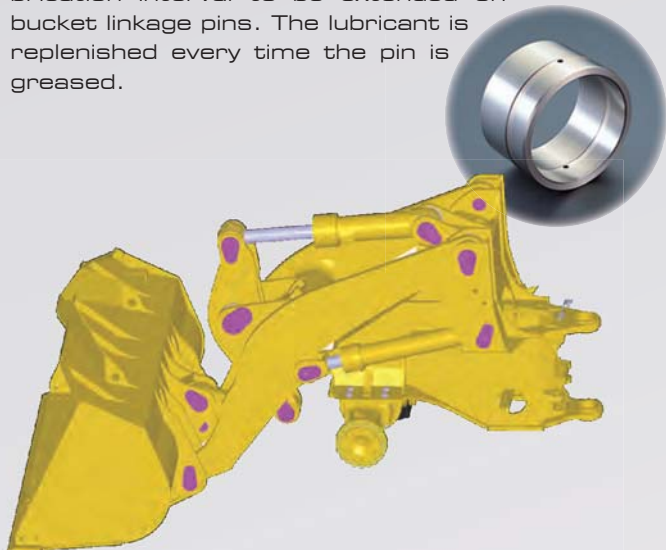
- A** Fuel pre-filter
- B** Main fuel filter
- C** Engine oil gauge
- D** Window washer tank



NEW

HN BUSHING EXTENDED LUBE INTERVALS

HN™ bushings extend lubrication intervals on bucket linkage pins to 500 hrs to reduce maintenance time and costs. The patented HN™ bushings are impregnated with high viscosity oil to provide added lubrication. This allows the lubrication interval to be extended on bucket linkage pins. The lubricant is replenished every time the pin is greased.

**NEW**

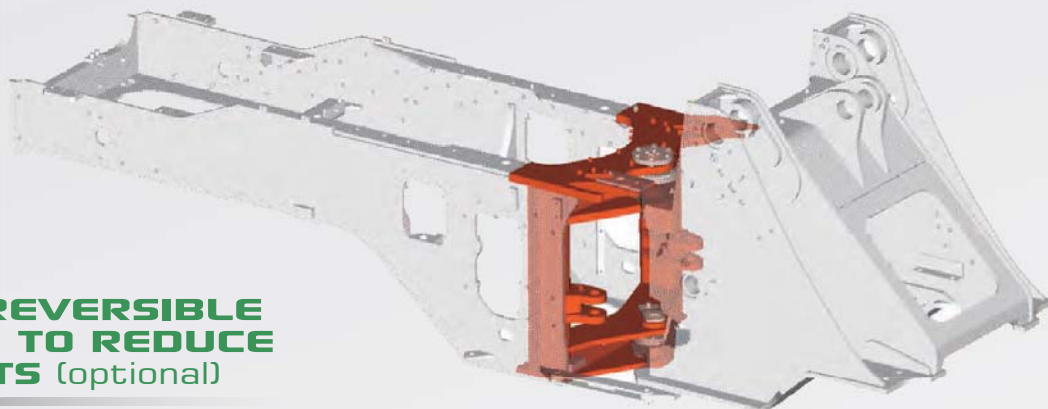
ANGLED LADDER

For better safety and easy access to the cabin, the ladders are newly inclined. Additionally the handrails are conveniently placed, too.



ROBUST FRAME

The main frame and its joins are thoroughly strengthened. The boxsection structure is adopted around center pins, where concentrated forces are applied, for reinforcement. Frame plate thicknesses are optimally determined by 3D stress analysis.



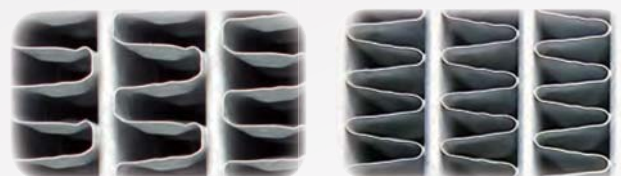
AUTOMATIC REVERSIBLE COOLING FAN TO REDUCE DUST DEPOSITS (optional)

The automatic reversible cooling fan is available to keep the radiator clean at all times. The cooling fan is automatically selfreversed every 30 minutes to blow dust off the radiator. The cover swings up for efficient air blowing.



WIDE FIN PITCH RADIATOR (optional)

Wide fin pitch radiator is available for use in dusty environments, where there are large amounts of airborne debris, to avoid dust clogging and overheating as a result. Air blowing is easy and simple.



Wide fin pitch radiator

Standard fin pitch radiator

Specification

EPA Tier 3 / EU Stage IIIA

Model Name : 70Z6

Engine	
Net power (ISO 9249)	125 kW (168HP) /2200 RPM
Make/ Model	Cummins "QSBB.7" diesel engine
Type	4-cycle,water-cooled,direct injection with turbocharger and air cooled intercooler
Fuel injection pump	Electronically controlled, common rail type
Governor	All speed electrical type
Cooling module type	Hydraulic drive pusher type fan, Pressurized radiator
Number of cylinders	6
Bore and stroke	107mm x 124mm
Total displacement	6.69 liters
Air cleaner	Dry type (double element)
Starter motor	DC 24V-7.8kW (10.5HP)
Battery	DC12V-108Ah (765CCA), 2 units
* For the range of fuel, please consult your local KCM distributor.	

Loading system		
Hydraulic cycle time / front end loading, Z bar linkage system		
	Normal mode	Power mode
Lifting time (at full load)	5.9 sec	5.7 sec
Lowering time (empty)	3.6 sec	3.6 sec
Bucket dumping time	1.4 sec	1.3 sec
Total	10.9 sec	10.6 sec

Steering system	
Steering type	Articulated frame steering
Steering mechanism	Hydraulic power steering by Orbitroll

Torque converter and transmission		
Torque converter	3-element, 1-stage, 1-phase	
Transmission	Countershaft type, Full power shift	
	Normal mode	Power mode
Speeds: Forward	1st : 5.9km/hr	1st : 5.8km/hr
	2nd: 11.5km/hr	2nd: 12.0km/hr
	3rd: 17.0 km/h	3rd: 18.1 km/h
	4th: 24.8km/h	4th: 26.4km/h
	5th: 38.5km/h	5th: 38.5km/h
Speeds: Reverse	1st : 6.1km/hr	1st : 6.1km/hr
	2nd: 11.8km/hr	2nd: 12.6km/hr
	3rd: 26.0 km/h	3rd: 27.7 km/h
	-	-
	-	-

Hydraulic system		
Lift (boom) cylinder		Two(2) double-acting piston type: 125mm x 765mm
Tilt (bucket) cylinder		One (1) double-acting piston type: 150mm x 495mm
Steering cylinder		Two (2) double-acting piston type: 70mm x 442mm
Main oil pump		Variable piston type: 27.4 MPa
Brake and Pilot oil pump		Gear type: 15.5 MPa
Relief valve set pressure	Control valve	27.4 MPa
	Priority valve	25.4 MPa

Systems refill capacity	
Fuel tank (diesel fuel)	235L
Engine lubricant (including oil pan)	25L
Engine coolant	25L
T/M & T/C	30L
Axle (front/rear)	34/35L
Hydraulic oil tank	100L
Hydraulic system (including hydraulic tank)	150L

Axle system	
Drive system	4-wheel drive
Front and rear axle	Semi-floating type
Tires	20.5-25-12 PR (L3)
Reduction and differential gear	Spiral bevel gear, conventional, single stage reduction
Final reduction gear	Outboard mounted, internal planetary gear
Oscillation angle	±12°

Brake system	
Service brakes	4-wheel, wet disc brake, Controlled by fully hydraulic system, dual circuit.
Parking/ Emergency brake	Spring-applied, oil pressure-released. Located on transmission axis

Equipment data

Standard equipment

Engine

Air filter, double element	Cartridge-type fuel main filter
Air intake, Pre-cleaner (Sy-Klone)	Cummins "QSB6.7" diesel engine
Cartridge-type engine oil filter	Engine oil remote drain
Cartridge-type fuel pre-filter	

Powertrain

Automatic transmission with load sensing system	Power mode switch
Clutch cut position switch	Quick power switch
Conventional differential	Travel mode selector (Auto1-Auto2)
DSS (Down Shift Switch)	1st speed fixed switch
Forward / Reverse lever	

Cooling system

Cooling fan with heat sensing	Standard fin pitch radiator
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Hydraulic system

Bucket auto leveler (Automatic return to dig control)	Hydraulic filters
Control lever for 2 spools control valve 2 levers	Lift arm float system Lift arm kickout
Control lever lock switch	Reservoir sight gauge

Electrical

Backup alarm	Turn signals with hazard switch
Batteries (120AH-760A)	Front lights on cab (2)
Brake & tail lights	Rear lights on rear grille side cover (2)
Clearance lights	
Headlights	

Others

Articulation lock bar	Ladders, Inclined	Neutral safety start	Spring-set/Hydraulic-released parking brake
Battery cover with locking bracket	Lift & tie down hooks	On board information controller	Standard lift arm
Counter weight (1,350 kg)	Linkage pins, HN bushing	Rear grill, hinged	Steps, rear
Drawbar with locking pin	Lockable engine cover	Rear under mirror	Z-bar loader linkage
Front & half covered rear fenders	Lockable fuel refilling cap	Single brake pedal	

Cab

Adjustable steering column	Retractable seat belt, 50mm
Ashtray, cigar lighter	Rubber floor mat
Auto control air conditioner with single intake filter	Storage: Cup holder, Digital audio player holder, Document holder, Hot & Cool box, Seatback pocket
Coat hook	Sun visor
Front / Rear defroster	Textured steering wheel with spinner knob
Glove compartment	Safety glass (tempered)
Mechanical suspension seat: fabric, high back, adjustable for armrest angle, fore-aft position, reclining angle, weight and height	Windshield washer front and rear
Non ROPS / FOPS cab	Windshield wipers front and rear
Rear view mirrors (inside (2), outside (2))	

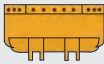
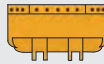
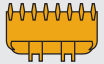
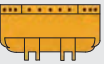
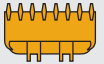
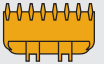
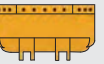
Monitoring system

Gauge Coolant temperature Fuel Transmission oil temperature	LCD monitor display Clock ECO F-N-R/Shift position Hold Hour meter Odometer Replacement intervals Ride control Speedmeter
Indicator lights Air filter restriction Brake oil low pressure Clearance lights Control lever lock Discharge warning Emergency steering Engine warning Fan reverse Fuel filter restriction Forward/reverse selector switch High beam Hydraulic oil temperature Maintenance Parking brake Power mode Preheat Seat belt Service Transmission oil Lockable engine cover	Warning lights Brake oil low pressure Engine oil low pressure Overheat Steering oil low pressure

Optional equipment

Air intake, rain cap	Bucket cylinder guard	High lift arm	ROPS (ISO3471), FOPS (ISO3449) cab
Air intake, pre-cleaner (Bowl type)	Counter weight (1,660kg)	Immobilizer key	Rotating lamp
AM/FM radio	Double (LH & RH) brake pedal	Large capacity batteries (155AH-900A)	Shift change delay mode
AM/FM radio with AUX for digital audio player	Dual lift arm auto leveler	LSD (Limited Slip Differential, front)	Wide fin pitch radiator
Auto control air conditioner with double intake filter	Emergency steering	Owner's Site	Work lights, additional front lights on cab (2)
Automatic reversible cooling fan with heat sensing	Forward/Reverse selector switch	Rear view camera & monitor	Work lights, rear lights on cab (2)
Battery disconnect switch	Front & full covered rear fenders with mud flaps	Rear view mirrors (outside, heated (2))	12V power outlet
Belly guard (Bolt on type)	Front & half covered rear fenders with mud flaps	Ride control system (OFF-AUTO type)	

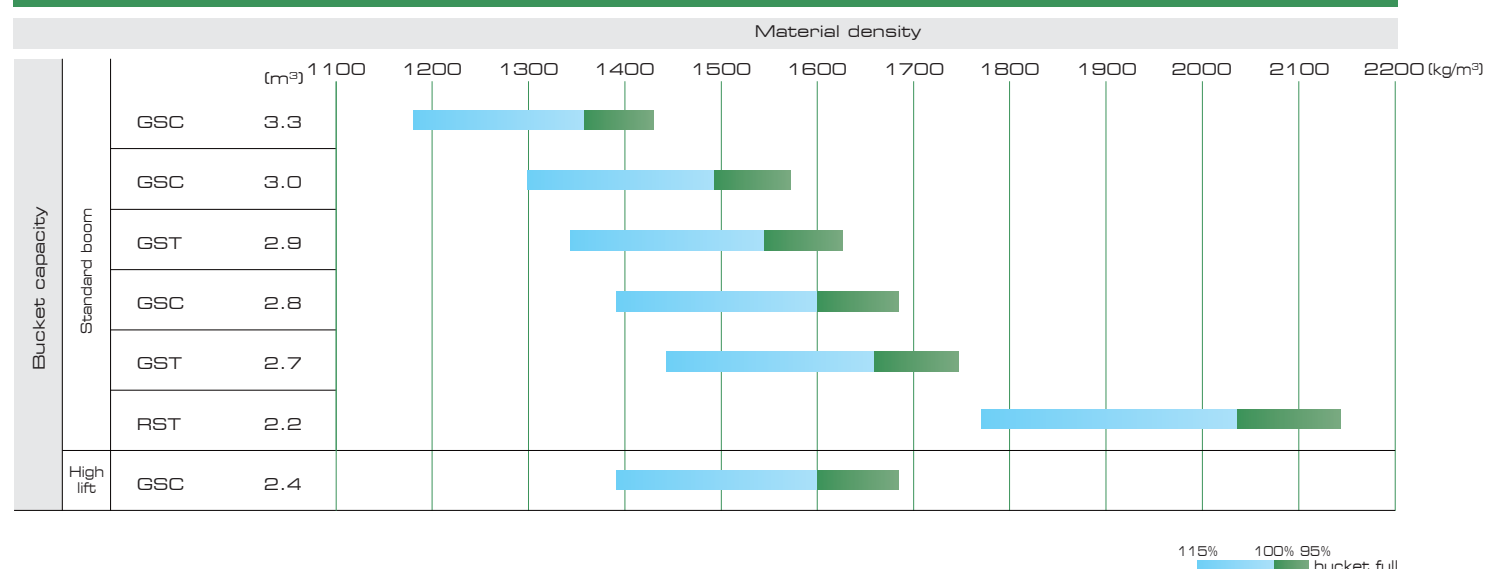
Bucket data

			Standard boom						Highlift
			General purpose loose material			General purpose stock pile		Rock straight edge	General purpose stock pile
			Bolt-on edges		Teeth	Bolt-on edges	Teeth	Teeth	Bolt-on edges
			GSC	GSC	GST	GSC	GST	RST	GSC
									
Bucket capacity	heaped	m³	3.3	3.0	2.9	2.8	2.7	2.2	2.4
	struck	m³	2.9	2.6	2.5	2.4	2.3	1.9	2.1
A Max. dumping clearance		mm	2,710	2,760	2,660	2,800	2,690	2,770	3,290
B Max. dumping reach		mm	1,160	1,100	1,190	1,070	1,150	1,070	1,130
C Max. hinge pin height		mm	3,920						4,330
D Digging depth (with bucket level)		mm	100	100	110	100	110	110	170
Breakout force		kN	112	119	129	124	137	150	127
Bucket tilt-back angle at carry position		deg	50						
E Overall length		mm	7,920	7,840	7,990	7,790	7,940	7,820	8,250
Overall height	F up to cab top	mm	3,280						
	G bucket full raise	mm	5,420	5,340	5,340	5,290	5,290	5,230	5,580
Overall width	H outside tire	mm	2,610						
	I outside bucket	mm	2,690						
J Tread		mm	2,050						
K Wheel base		mm	3,100						
Min. turning radius (bucket carry position)	L at outside bucket	mm	6,230	6,210	6,260	6,200	6,240	6,210	6,370
	L' at center of outside tire	mm	5,300						
M Min. ground clearance		mm	395						
Full articulation angle		deg	40						
Operating weight with ROPS cab		kg	14,720	14,680	14,610	14,640	14,580	15,070	15,060*
Static tipping load straight		kg	11,630	11,710	11,890	11,760	11,940	11,460	9,990*
	full turn	kg	10,010	10,080	10,250	10,130	10,300	9,820	8,580*

The weight and load figure includes base tire (20.5-25-12PR L3), ROPS cab, lubricant, coolant, full fuel tank and operator (75kg)

*The weight includes counter weight (1,660kg)

Bucket selection chart

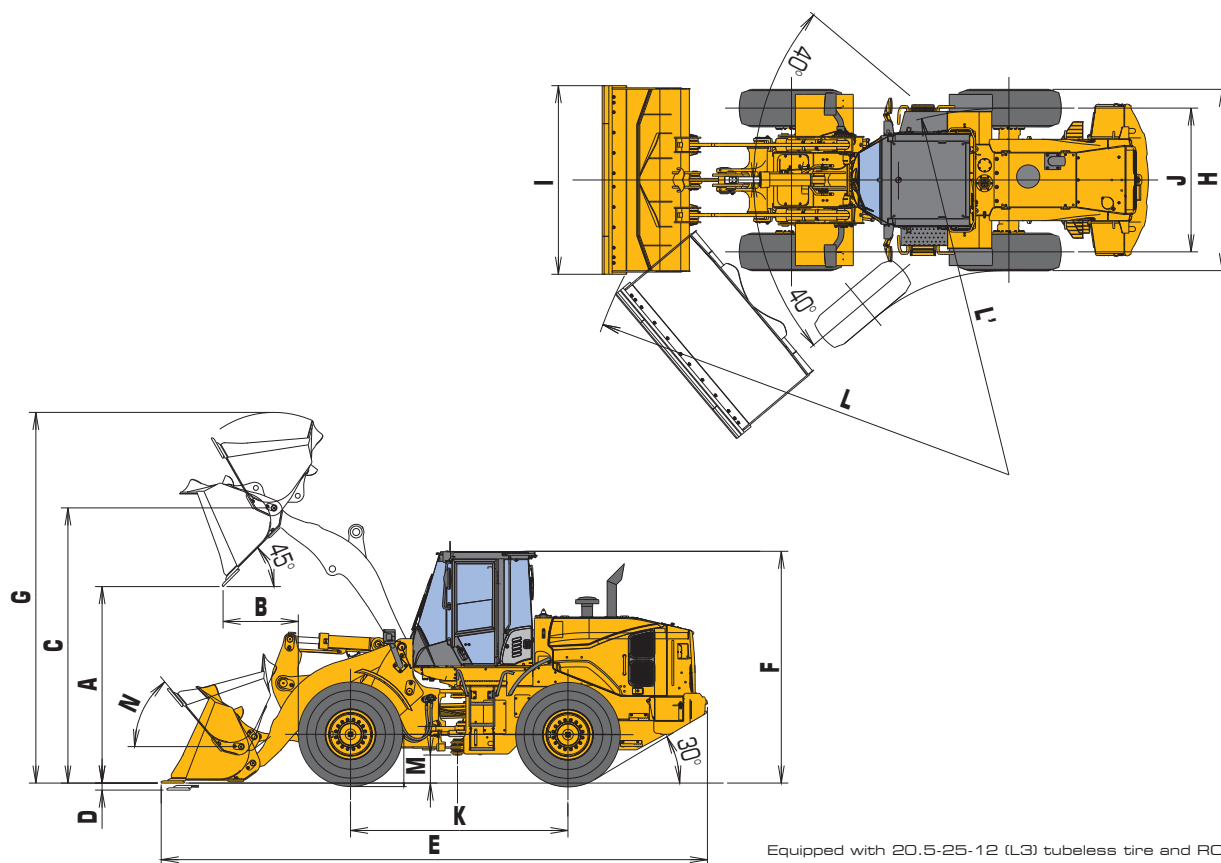


Specification

Weight and dimensions

Option item		Operating weight	Tipping load			Overall width (outside tire)	Overall height	Overall length
			Straight	Full turn				
Tire	20.5-25-12PR (L3)	kg	±0	±0	mm	±0	±0	±0
	20.5-25-16PR (L3)	kg	+40	+30	mm	±0	±0	±0
	20.5R25 (L3)	kg	+180	+140	mm	+25	+5	-5
	20.5R25 (L5)	kg	+620	+470	mm	+40	+35	-30
Belly guard		kg	+160	+100	mm	-	-	-
Soft cab (instead of ROPS / FOPS cab)		kg	-210	-200	mm	-	-	-
Counter weight		kg	+310	+800	mm	-	-	+80

Dimensions



Equipped with 20.5-25-12 (L3) tubeless tire and ROPS cab.

Remarks

- * Materials and specifications are subject to change without notice and without any obligation on the part of the manufacturer.
- * This information, while believed to be completely reliable, is not to be taken as warranty for which we assume legal responsibility.
- * Dumping clearance and reach are measured from bucket edge in accordance with SAE J732C.
- * Color for model shown in this brochure is a standard KCM yellow.
- * Counterweight(option) should not be used with tire ballast.
- * This specification sheet may contain attachments and optional equipment which are not available in your area.

Please contact your local KCM distributor for those items which you require.

HISTORY

KCM's rich heritage began in 1962 with the development of Japan's first Z-linkage articulated wheel loader. With over 50 years of experience and innovation, KCM is one of the major leader in the global wheel loader market. Made in Japan has become a sign of quality worldwide and KCM loaders are proud of their Japanese roots. As a specialist in wheel loaders, KCM has focused on satisfying customer needs with technological innovation. "Powerful, Durable, Dependable" a slogan that has not changed since the beginning. For over a half century, KCM has provided high quality and high performance machines as a major producer of wheel loaders. Operating in a wide range of applications and working conditions, KCM loaders set the standard for the industry. KCM continues to develop advanced, cutting edge technologies to continue to provide the market with value.



KCM Corporation

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