

SPECIFICATION

STAGE V



WHEEL LOADER | 413S

Operating weight: 9,276kg Engine power: 112kW Shovel size: 1.6m³



LOADS MORE POWER

The JCB 413S, one powerful member of the AGRI S range has just got loads more. Its Stage V JCB DIESELMAX 4.8 litre engine, delivers 150hp, whilst weighing under 9 tonnes, giving it a huge power-to-weight ratio. With a unique 6-speed transmission, unbeatable cab comfort and visibility, the 413S is one highly productive machine, capable of tackling most jobs on any size farm.



LOADS MORE PRODUCTIVITY

XXXX



LOADS MORE QUALITY

XXXX

LOADS MORE EFFICIENCY

XXXX



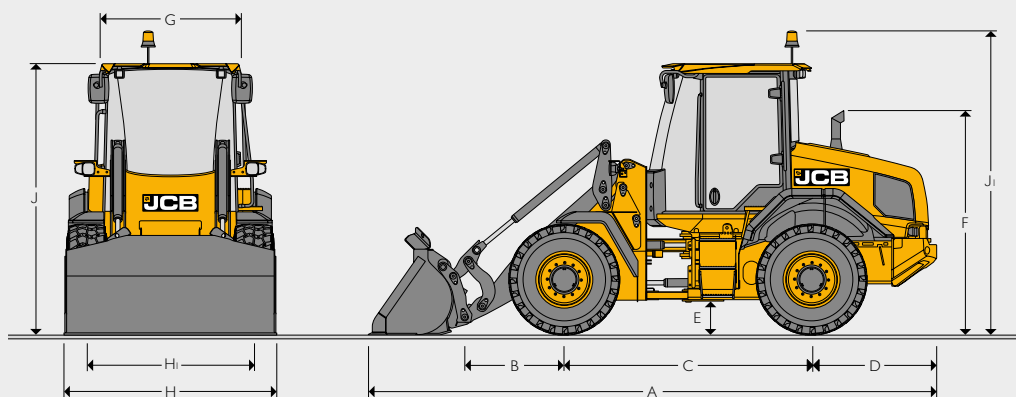
LOADS MORE COMFORT

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LOADS MORE UPTIME

XXXX

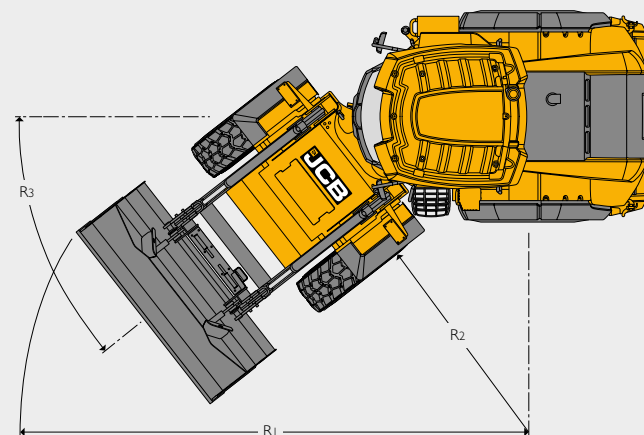
STATIC DIMENSIONS



		413S	413S HL
A	Overall length	mm 6524	6718
B	Axle to pivot pin	mm 1215	1409
C	Wheel base	mm 2750	2750
D	Axle to counterweight face	mm 1365	1365
E	Minimum ground clearance	mm 351	351
F	Height over exhaust	mm 2582	2582
G	Width over cab	mm 1431	1431
H	Max width over tyres	mm 2347	2347
Hi	Wheel track	mm 1880	1880
J	Height over cab	mm 3064	3064
Ji	Height over raised beacon	mm 3410	3410
	Front axle weight	kg 3832	3978
	Rear axle weight	kg 5365	5318
	Total weight	kg 9197	9296

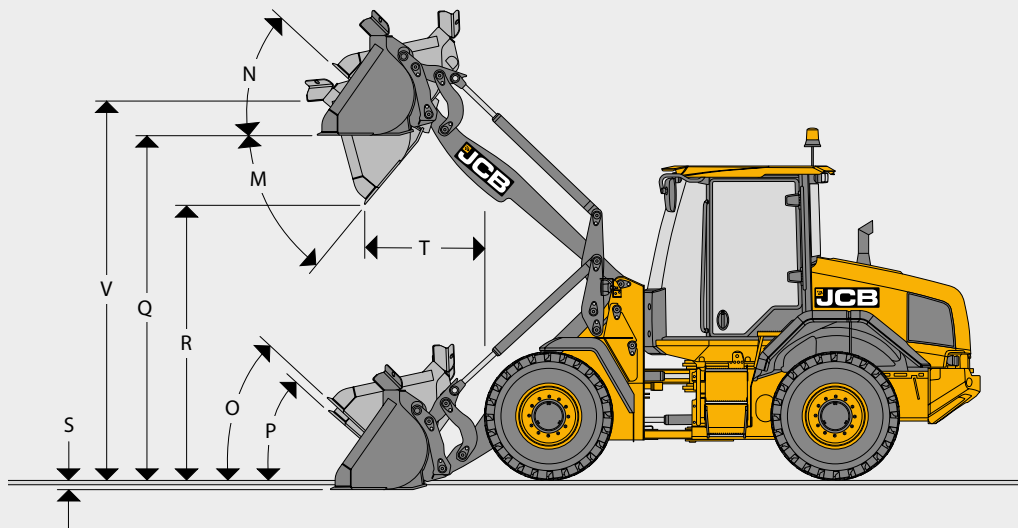
413S data based on machine equipped with quickhitch mounted 1 m³ bucket with toe plates and Michelin XMCL460/70 R24 tyres.

TURNING CIRCLE



		413S	413S HL
R1	Maximum turn radius over shovel	mm 5445	5445
R2	Inside turn radius	mm 2600	2600
R3	Articulation angle	deg +/-40	+/-40

LOADER DIMENSIONS 413S, HL

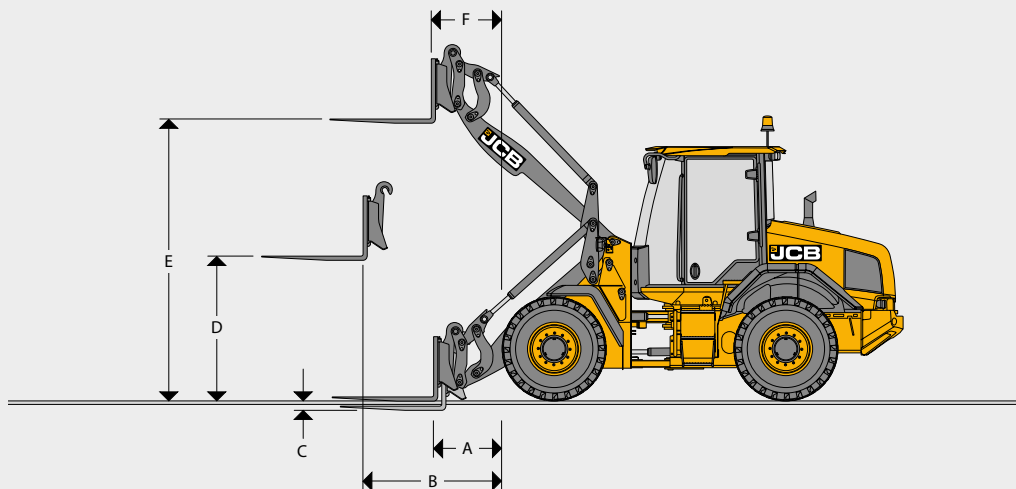


TYRE SIZE 413S HT					413S		413S HL		Dimensions	
Tyre size	Manufacturer	Type	Rating	Operating weight (kg)	STL kg	FTTL kg	STL kg	FTTL kg	Vertical mm	Width mm
500/70 R24	Michelin	XMCL		154	137.7	125.4	113.6	103.4	46	165
540/70 R24	Michelin	XMCL		74	66.2	60.2	54.6	49.7	21	84
17.5 R25	Michelin	SNOPLUS	L2	370	330.9	301.2	273.0	248.5	18	-59
17.5 R25	Michelin	XTLA	L2	318	284.4	258.9	234.6	213.6	14	-48
15.5 R25	Nokian	LOADER GRIP 2	L3	-36	-32.2	-29.3	-26.6	-24.2	-4	-153
17.5 R25	Nokian	LOADER GRIP	L2	228	203.9	185.6	168.2	153.1	32	-62
17.5 R25	Nokian	GRS		306	273.7	249.1	225.8	205.5	43	-62

Model	413S										413S HL									
	Direct					Quickhitch					Direct					Quickhitch				
Shovel type	General purpose										General purpose									
Shovel equipment	Tipped teeth		Reversible toeplate			Reversible toeplate					Tipped teeth		Reversible toeplate			Reversible toeplate				
Shovel capacity (SAE heaped 100%)	m³	1.2	1.4	1.2	1.4	1.6	1	1.2	1.4	1.6	1.2	1.4	1.2	1.4	1.6	1	1.2	1.4	1.6	
Shovel capacity (struck)	m³	1.01	1.18	1.01	1.18	1.36	0.84	1.01	1.18	1.36	1.01	1.18	1.01	1.18	1.36	0.84	1.01	1.18	1.36	
Shovel width	mm	2250	2400	2250	2400	2400	2286	2250	2400	2400	2250	2400	2250	2400	2400	2286	2250	2400	2400	
Shovel weight	kg	528	603	528	603	638	386	505	580	614	502	681	528	638	638	386	505	580	638	
Maximum material density *	kg/m³	2340	1956	2340	1956	1691	2397	2215	1864	1610	2145	1793	2145	1793	1530	2202	2029	1704	1451	
Tipping load straight *	kg	6575	6426	6575	6426	6350	5656	6293	6149	6078	6042	5904	6042	5904	5836	5213	5775	5642	5508	
Tipping load full turn *	kg	5616	5478	5616	5478	5410	4793	5315	5218	5153	5148	5020	5148	5020	4956	4404	4896	4773	4643	
Payload *	kg	2808	2739	2808	2739	2705	2397	2658	2609	2577	2574	2510	2574	2510	2448	2202	2435	2386	2322	
Maximum breakout force	kN	73.2	67.7	73.2	67.7	62.7	67.9	67.2	62.3	57.1	73.2	67.7	73.2	67.7	67.7	67.9	67.7	62.3	57.1	
M Dump angle maximum	degrees	47	47	47	47	47	47	47	47	47	43	43	43	43	43	43	43	43	43	
N Roll back angle full height	degrees	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	
O Roll back at carry	degrees	46	46	46	46	46	43	46	46	46	49	49	49	49	49	46	49	49	49	
P Roll back at ground level	degrees	42	42	42	42	42	42	42	42	42	46	46	46	46	46	46	46	46	46	
Q Load over height	mm	3354	3354	3354	3354	3354	3379	3371	3371	3371	3599	3599	3599	3599	3599	3624	3616	3616	3616	
R Dump height (45 deg dump)	mm	2775	2709	2775	2709	2658	2610	2739	2673	2622	3051	2992	3051	2992	2945	2900	3016	2955	2907	
S Dig depth	mm	122	122	122	122	122	105	105	105	105	122	122	122	122	122	97	107	107	107	
T Reach at dump height	mm	937	998	937	998	1046	1064	994	1056	1103	950	1018	950	1018	1071	1079	1013	1079	1130	
V Pin height (maximum)	mm	3579	3579	3579	3579	3579	3579	3579	3579	3579	3824	3824	3824	3824	3824	3824	3824	3824	3824	
Reach maximum (45 deg dump) horizontal arm	mm	1671	1734	1671	1734	1784	1840	1732	1796	1846	1821	1885	1821	1885	1939	1990	1880	1948	1992	
Operating weight (includes 75Kg operator and full fuel and DEF tanks)	kg	8976	9051	8976	9051	9086	9128	9167	9242	9276	9069	9144	9069	9144	9179	9221	9260	9335	9369	

* Assumes machine is fitted with 1m³ shovel with bolt on toe plate and Michelin XMCL460/70 R24 tyres and heavy duty counterweight.

LOADER DIMENSIONS – FORK FRAME WITH FORKS



LOADER DIMENSIONS – FORK FRAME WITH FORKS

		Parallel fork		Non parallel fork	
		413S	413S HL	413S	413S HL
Fork carriage width	mm	1500	1500	1500	1500
Length of tines	mm	1220	1220	1220	1220
A Reach at ground level	mm	922	1117	937	1132
B Reach at arms horizontal	mm	1535	1685	1542	1692
C Below ground level	mm	74	74	84	84
D Arms, horizontal height	mm	1671	1671	1660	1660
E Arms, maximum height	mm	3402	3647	3392	3637
F Reach at maximum height	mm	829	789	836	796
Tipping load straight	kg	4158	3855	4149	3848
Tipping load full turn (40°)	kg	3326	3084	3319	3078
Payload*	kg	4900	4557	4889	4549
Attachment weight	kg	435	435	430	430

Assumes manual fork spacing at 50mm increments. Fork section 100mm x 50mm and Michelin XMCL460/70 R24 tyres.

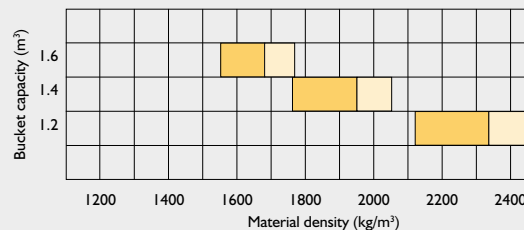
*At the centre of gravity distance 600mm. Based on 80% of FTTL as defined in ISO 8313.

BUCKET SELECTOR

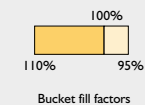
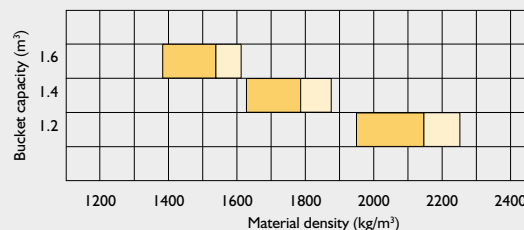
Material	Loose density (kg/m ³)	Fill factor (%)
Snow (fresh)	200	110
Peat (dry)	400	100
Sugar beet	530	100
Coke (loose)	570	85
Barley	600	85
Petroleum coke	680	85
Wheat	730	85
Coal bituminous	765	100
Fertiliser (mixed)	1030	85
Coal anthracite	1046	100
Earth (dry) (loose)	1150	100
Nitrate fertiliser	1250	85
Sodium chloride (dry) (salt)	1300	85
Cement Portland	1440	100
Limestone (crushed)	1530	100
Sand (dry)	1550	100
Asphalt	1600	100
Gravel (dry)	1650	85
Clay (wet)	1680	110
Sand (wet)	1890	110
Fire clay	2080	100
Copper (concentrate)	2300	85
Slate	2800	100
Magnetite	3204	100

Above based upon 1m³ shovel.

413S



413S HL



ENGINE			
Manufacturer			JCB
Model			448
Capacity	litres		4.8
Cylinders			4
Bore	mm		106
Stroke	mm		139
Aspiration			Turbocharged
Max power	kW (hp) @ 2200 rpm		112 (150)
Rated power	kW (hp) @ 2200 rpm		112 (150)
Power @ max torque	kW (hp) @ 1500 rpm		94.3 (126)
Max torque	Nm @ 1500rpm		600
Valves per cylinder			4
Air cleaner			Cyclonic Pre Filter
Fan drive type			Standard: Viscous Drive Fan Option: Hydraulic (Auto Reverse)
Emissions			Stage 5

TRANSMISSION			
		6 Speed Non-Lockup	
Model		ZF 6WG115	
		Forward	Reverse
40kph axles			
1 st gear	kph	5.9	6.2
2 nd gear	kph	9.2	15.0
3 rd gear	kph	14.2	34.7
4 th gear	kph	21.9	-
5 th gear	kph	32.9	-
6 th gear	kph	40.0	-
50kph axles			
1 st gear	kph	6.8	7.1
2 nd gear	kph	10.6	17.2
3 rd gear	kph	16.3	40
4 th gear	kph	25.2	-
5 th gear	kph	37.9	-
6 th gear	kph	50	-

ELECTRICAL SYSTEM		
System voltage	Volt	24
Alternator output	Amp	100
Battery capacity	Amp hour	2 x 110

Connectors to IP67 standard

LOADER HYDRAULICS		
Pump type		Variable placement piston pump
Pump 1 max. flow	l/min	156
Pump 1 max. pressure	bar	250
Hydraulic cycle times at full engine revs		
Arms raise (full bucket)	Seconds	4.4
Bucket dump (full bucket)	Seconds	1.7
Arms lower (empty bucket)	Seconds	2.8
Total cycle	Seconds	8.9

AXLES		
Type		Limited Slip (LSD)
Make & model	Standard fit	JCB PD70 (Front & Rear)
Rear axle oscillation	degrees	± 11°
Axle Ratio 40KPH		18.16
Axle Ratio 50KPH		15.78

STEERING	Hydraulic power steering system emergency steering.
BRAKES	Hydraulic power braking on all wheels. In board mounted, oil immersed, multi-plate disc brakes. Mechanically or Electro-Hydraulically activated disc type parking brake operating on transmission output shaft.
CAB	In-cab noise level – 68dB(A). External Noise 104dB(A).

NOISE AND VIBRATION				
			Uncertainty	Measurement conditions
Noise at the operator station	LpA	68 dB	+/- 1 dB	Determined in accordance with the test method defined in ISO 6396 and the dynamic test condition defined on 2000/14/EC.
Noise emission from the machine	LWA	104 dB	+/- 1 dB	Guaranteed equivalent sound power (external noise) determined in accordance with the dynamic test conditions defined in 2000/14/EC.
Whole body vibration	m/s ²	0.58	+/- 0.11 dB	ISO 2632-1:1997 normalised to an 8h reference period and based upon a test cycle comprising of loader work (soil).
Hand-arm vibration	m/s ²	<2.5	N/A	ISO 5349-2:2001 dynamic test conditions.

SERVICE FILL CAPACITIES		
Hydraulic system	litres	155
Fuel tank	litres	116
Auxiliary fuel tank	litres	111
DEF (Adblue)	litres	20

EQUIPMENT

SERVICE AND MAINTENANCE

5 year LiveLink telematics	•
Engine oil remote drain and fill	•
Grouped pressure test points	•
Lockable tool box	•
Lubrication points accessible from ground level	•
Transmission oil level sight gauge	•
Hydraulic level sight gauge	•

ENGINE

Air cleaner – cyclonic pre-filter with engine fan scavenge system	•
Fixed viscous mounted fan	•
Automatically reversing cooling fan	+
Crankcase breather oil trap	•
DEF fluid	•
Epoxy coated radiator / coolers	+
Fuel pre-filter with water trap	•
Hydraulically driven cooling fan	•
-20° cold start	•
DPF / SCR engine emission control	•
Waste gated turbo	•
Widecore radiator	•
Auto engine idle shut down timer (in cab adjustable)	•

ELECTRICAL

100 amp alternator	•
Amber rotating beacon	•
Electrical adjustable mirrors	•
Heated mirrors	•
External battery isolator	•
Fold down beacon arm	•
Halogen front and rear working lights	•
Full road light kit	•
Integrated rear view camera	+
LED front and rear working lights	+
LED 360° work lights	+
Number plate light kit	+
Radio wiring and speakers	•
Reverse alarm	•
Smart reverse alarm	+
White noise reverse alarm and light	+

DRIVE TRAIN

6 speed transmission 40 kph	+
6 speed transmission 50 kph	+
Gear kick down on loader control lever	•
Loader lever direction control	•
Neutral start	•
Open differential	•
Limited slip differentials front and rear	+
Oscillating rear axle	•
Foot brake operated transmission disconnect (selectable)	•
Selectable automatic powershift	•
Steering column single lever shift control (direction and gear)	•
Transmission cooler bypass	+

BRAKE SYSTEM

Multi-plate wet disc brakes	•
Parking disc brake on transmission output shaft	•
Mechanical hand operated park brake	•
Electrical hydraulic park brake	+
Independent accumulator backup for electric park brake	+

OPERATOR STATION

Fully glazed cab	•
Front windscreen guards	+
Air conditioning	•
Climate control	+
Single lever joystick	•
Multi-lever hydraulic controls	+
Proportional electro hydraulic auxiliary control	+
Electronic adjustment of SRS (Smooth Ride System) cut-in speed	+
Electronic adjustment of reverse fan interval	+
Air suspension cloth seat	•
Deluxe heated air suspension cloth seat	+
Super deluxe heated & cooled air suspension half leather seat	+
Front roller blind	•
Rear roller blind	+
Cab air intake filter	•
Carbon cab air intake filter	+
12V in cab power socket	•
2 x 12V in cab power socket	+
24V in cab power socket	+
Reversing camera (colour)	+
Fold away adjustable steering column	•
ROPS / FOPS safety structure	•
Interior light	•

OPERATOR STATION (CONTINUED)

Front primary display screen	•
Secondary B post display screen, rotary control menu interface	+
B post mounted membrane switches	•
50 mm seatbelt	•
75 mm seat belt	+
Fire extinguisher (UK only)	+
Two speed intermittent front windscreen wipe / wash and self-park	•
Single speed rear windscreen wipe/wash and self-park	•
3 speed heater/demisting	•
LH and RH sliding opening windows	•
Floor mat	•
Cup holder	•
Steering wheel spinner knob	•
Internal rear view mirror	•
Tinted cab glass	•
Multi-media port (USB and 3.5mm)	+
Operator stowage	•
Laminated windscreen	•
Heated rear screen	•
Loader control isolator	•
Horn	•
Adjustable armrest	•
Removable storage rubber mats	•

FRONT PRIMARY DISPLAY

Warning lights

Direction indicators	•
Master warning	•
High coolant temperature	•
Battery charging condition	•
Low fuel level	•
Engine oil pressure	•
Hazard lamps	•
Park brake state	•
Road lights	•
Main beam lights	•
Rear fog lights	•
Engine pre-heat	•
Brake system pressure	•
Low steering pressure	•

Buzzer alerts

Engine air filter blocked	•
Diesel exhaust fluid (DEF)	•
Amber warning lamp	•

EQUIPMENT

FRONT PRIMARY DISPLAY (CONTINUED)

Guage display	
Engine speed	•
Coolant temperature	•
Fuel level	•
LCD screen display	
Current gear	•
Amber warning lamp	•
Diesel exhaust fluid (DEF)	•
Secondary steer system pressure	•
Steer mode	•
Ground speed	•
Engine Speed (numeric display)	•
Clock	•
Hydraulic state	•
SRS (Smooth Ride System)	•
Beacon	•
Front work lamps	•
Rear work lamps	•
Heated rear screen	•
Transmission sump temperature	•
Data screens	
DEF level	•
Hydraulic oil temperature	•
Torque convertor temperature	•
Volume of fuel remaining	•
Total fuel used (resettable)	•
Instantaneous fuel use	•
Average fuel use (resettable)	•
Current date	•
Machine hours	•
Trip distance (resettable)	•
Hours to service	•
Daily checks	•
Engine oil level	•
DEF level	•

RIGHT HAND SECONDARY DISPLAY - OPTIONAL

Clock	•
Climate control	•
Fan speed	•
In-cab temperature set	•
Machine hours	•
Rear view camera	•
Fuel use	•

RIGHT HAND SECONDARY DISPLAY - OPTIONAL (CONTINUED)

Time and date	•
Auxiliary flow rate	+
Hydraulic oil temperature	•
Transmission oil temperature	•
Machine settings screen	
Coolant temperature	•
Engine oil pressure	•
Air filter	•
Transmission sump temperature	•
Transmission torque convertor temperature	•
Hydraulic oil temperature	•
Battery voltage	•
Help display	•
On-screen handbook	•

HYDRAULIC SYSTEM

Smoothride system (SRS)	•
Hydraulic quickhitch with in-cab isolation	+
Auxiliary ARV kit	+
Auxiliary hydraulic service	+
Twin auxiliary hydraulic service	+
Emergency steer back-up	•
JCB biodegradable hydraulic oil	+
Electronic hydraulic isolation	•
Automatic boom kick-out. Detent	•
Automatic bucket positioner	•
Front loader float	•
Hydraulic oil cooler	•

EXTERNAL EQUIPMENT

Front and rear fenders	•
Front adjustable mud flaps	•
Front wheel spray guards	•
Rear fender chevrons	•
Automatic greasing system	+
Grease gun and cartridge	+
Mesh air intake screens	•
Flexible bottom step	•
Full width rear counterweight	•
Chevron rear counterweight	+
Recovery hitch	•
8,000kg hydraulic tow hitch with trailer brakes (12V electrics)	+
Lifting / tie down lugs	•

PROTECTIVE EQUIPMENT

Loader arm safety strut	•
Light guards	+
Belly guard kit	+
Articulation joint safety strut	•

OTHER EQUIPMENT

High lift loader end	+
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STANDARD •

OPTIONAL +



ONE COMPANY, OVER 300 MACHINES.

Your nearest JCB dealer

WHEEL LOADER 413S

Operating weight: 9,276kg Engine power: 112kW Shovel size: 1.6m³

JCB Sales Limited, Rokester, Staffordshire, United Kingdom ST14 5JP.

Tel: +44 (0)1889 590312 Email: salesinfo@jcb.com

Download the very latest information on this product range at: www.jcb.com

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