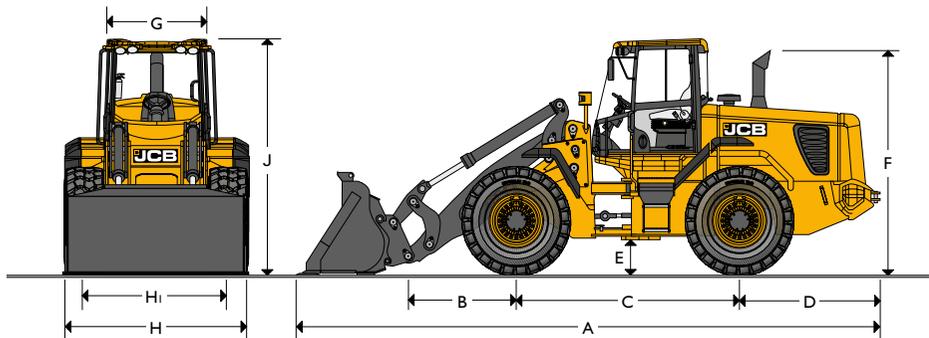
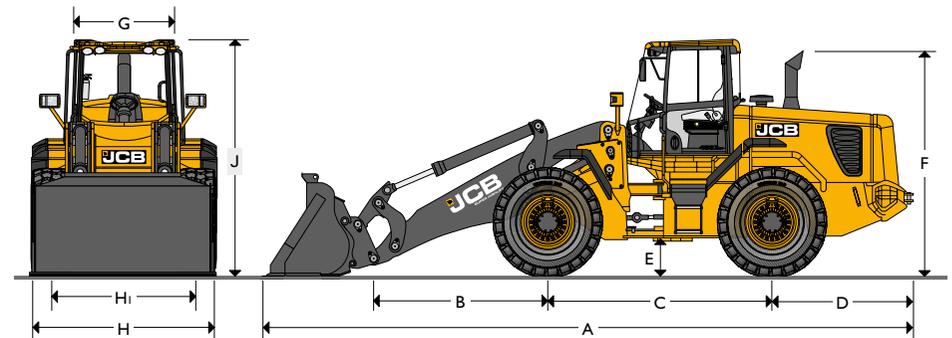


MAX. ENGINE POWER: 160kW (215hp) MAX. OPERATING WEIGHT: 22079kg MAX. LOADER CAPACITY: 3.5m³

456/456e HT – STATIC DIMENSIONS – Standard height arm



456/456e HT – STATIC DIMENSIONS – Super high lift arm



456/456e HT – STATIC DIMENSIONS – Standard height arm

		mm
A	Overall length	8520
B	Axle to pivot pin	1713
C	Wheelbase	3300
D	Axle to counterweight face	1970
E	Minimum ground clearance	470
F	Height over exhaust	3260
G	Width over cab	1400
H	Width over tyres	2702
Hi	Wheel track	2100
J	Height over cab	3370
	Pin height (maximum)	4304
	Overall operating height	5768
	Front axle weight	kg 9266
	Rear axle weight	kg 11105
	Total weight	kg 20371
	Inside radius	3182
	Maximum radius	6630
	Articulation angle	± 40°

456/456e HT – STATIC DIMENSIONS – Super high lift arm

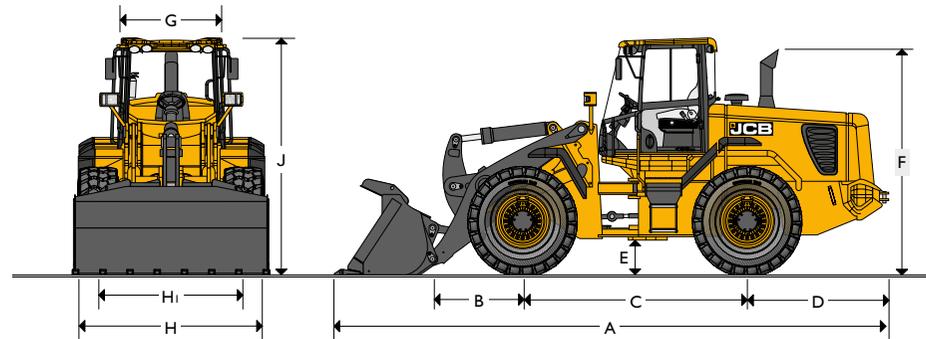
		mm
A	Overall length	9450
B	Axle to pivot pin	2727
C	Wheelbase	3300
D	Axle to counterweight face	1970
E	Minimum ground clearance	470
F	Height over exhaust	3260
G	Width over cab	1400
H	Width over tyres	2702
Hi	Wheel track	2100
J	Height over cab	3370
	Pin height (maximum)	5270
	Overall operating height	6733
	Front axle weight	kg 11141
	Rear axle weight	kg 10130
	Total weight	kg 21271
	Inside radius	3182
	Maximum radius	7121
	Articulation angle	± 40°

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

MAX. ENGINE POWER: 160kW (215hp) MAX. OPERATING WEIGHT: 21335kg MAX. LOADER CAPACITY: 3.5m³

456/456e ZX – STATIC DIMENSIONS – Standard height arm



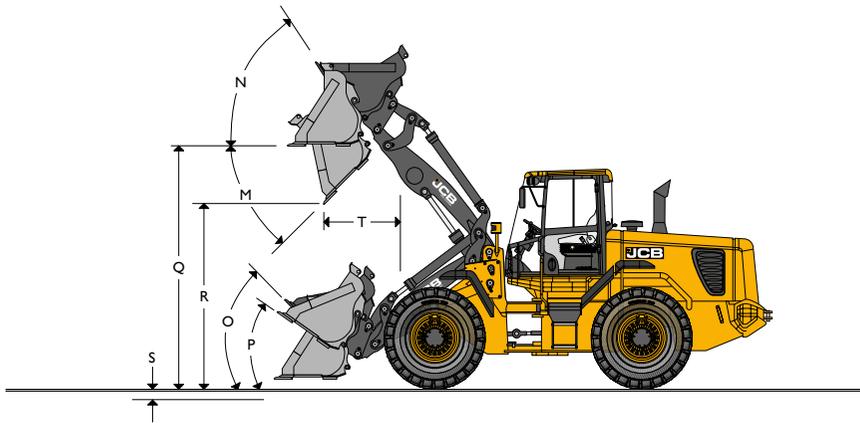
456/456e ZX – STATIC DIMENSIONS – Standard height arm

		mm
A	Overall length	7960
B	Axle to pivot pin	1622
C	Wheelbase	3300
D	Axle to counterweight face	1970
E	Minimum ground clearance	470
F	Height over exhaust	3260
G	Width over cab	1400
H	Width over tyres	2702
Hi	Wheel track	2100
J	Height over cab	3370
	Pin height (maximum)	4107
	Overall operating height	5571
	Front axle weight	kg 8840
	Rear axle weight	kg 10030
	Total weight	kg 18870
	Inside radius	3182
	Maximum radius	6554
	Articulation angle	± 40°

Data based on machine equipped with pin mounted 3.3m³ bucket with teeth and 23.5 R25 Michelin XHA (L3) radial tyres.

456/456e HT – LOADER DIMENSIONS – Standard height arm

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – Standard height arm

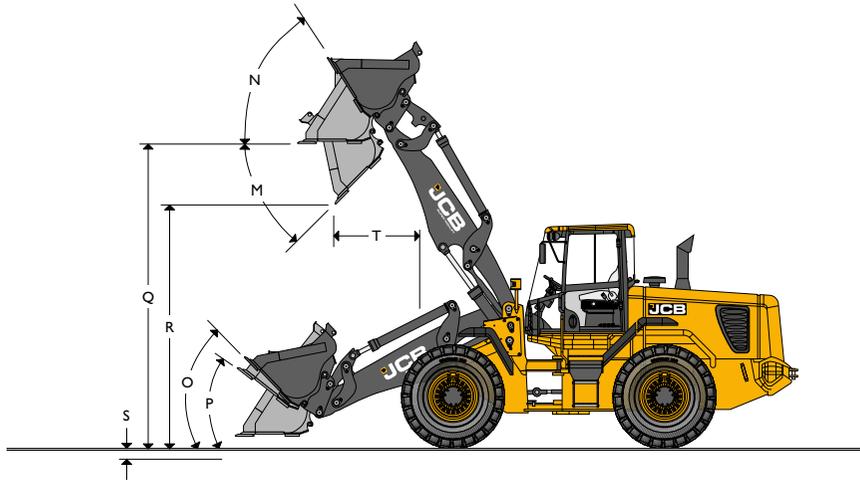


Tyre size	Manufacturer	Type	Rating	Op. weight kg	Tipping loads		Dimensions	
					Straight kg	Full turn kg	Vertical mm	Width mm
23.5 - 25 (crossply)	Bridgestone	20 Ply	L2	-432	-251	-246	-2	0
23.5 R 25 (radial)	Goodyear	GP - 2B	L2	-64	-38	-37	-2	0
23.5 R 25 (radial)	Goodyear	RL - 2 +	L2	100	62	+61	-2	0
23.5 R 25 (radial)	Michelin	XTLA	L2	-100	-58	-57	-2	0
23.5 - 25 (crossply)	Bridgestone	20 Ply	L3	-208	-121	-118	0	0
650/65 R25 (radial)	Michelin	XLD	L3	-196	-113	-112	-60	29
750/65 R25 (radial)	Michelin	XLD	L3	424	262	257	-6	205
23.5 R25 (radial)	Michelin	XRD1A	L4	256	158	155	36	0
23.5 R 25 (radial)	Goodyear	GP - 4B	L4	380	235	230	36	0
23.5 R 25 (radial)	Michelin	XLDD2A	L5	572	353	345	36	0
23.5 R 25 (radial)	Michelin	XMINED2	L5	808	499	488	36	0
23.5 R 25 (radial)	Goodyear	RL - 5K	L5	704	435	425	36	0
23.5-25 (crossply)	JCB	SITEMASTER	L3	-92	-58	-49	6	1
23.5R25 (radial)	JCB	EARTHMOVER	L3	160	101	86	1	6

Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres.

		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
Bucket equipment		Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments
Bucket capacity (SAE heaped)	m ³	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5
Bucket capacity (struck)	m ³	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844
Bucket width	mm	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837
Bucket weight with wearparts	kg	1508	1554	1623	1669	1623	1669	1380	1416	1495	1531	1495	1531
Maximum material density	kg/m ³	2032	1895	1888	1767	1888	1767	1925	1796	1787	1673	1787	1673
Tipping load straight	kg	14635	14534	14493	14392	14493	14392	13888	13801	13746	13653	13746	13653
Tipping load full turn	kg	12601	12508	12462	12368	12462	12368	11933	11853	11795	11708	11795	11708
Payload at 50% FTL	kg	6301	6254	6231	6184	6231	6184	5697	5926	5897	5854	5897	5854
Maximum break out force	kN	161	153	150	143	150	143	144	138	135	130	135	130
M Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
N Roll back angle at full height	degrees	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°
O Roll back at carry	degrees	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°
P Roll back at ground level	degrees	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°
Q Load over height	mm	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028
R Dump height (45° dump)	mm	2930	2888	3069	3027	2930	2888	2824	2782	2963	2921	2824	2782
S Dig depth	mm	109	109	91	91	109	109	109	109	91	91	109	109
T Reach at dump height	mm	1334	1375	1220	1261	1334	1375	1440	1482	1326	1368	1440	1482
Reach maximum (45° dump)	mm	2310	2352	2196	2238	2310	2352	2416	2458	2302	2344	2416	2458
Operating weight (includes 80kg operator and full fuel tank)	kg	20028	20074	20143	20189	20143	20189	20220	20256	20335	20371	20335	20371

456/456e HT – LOADER DIMENSIONS – Super high lift arm



Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres.

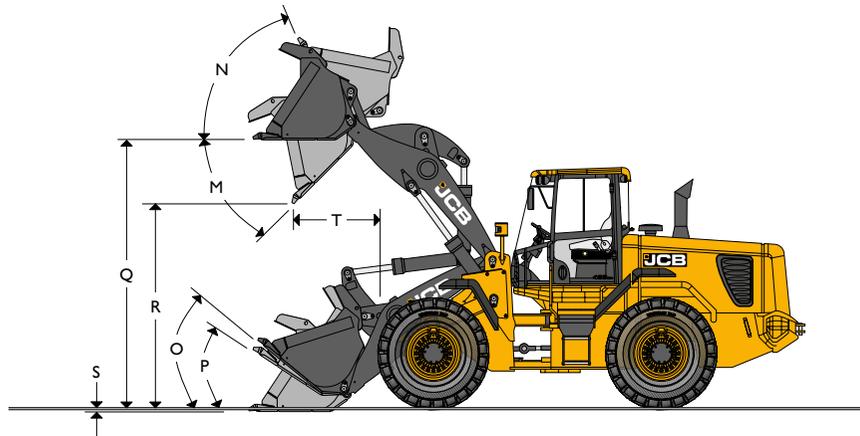
CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – Super high lift arm

Tyre size	Manufacturer	Type	Rating	Op. weight kg	Tipping loads		Dimensions	
					Straight kg	Full turn kg	Vertical mm	Width mm
23.5 - 25 (crossply)	Bridgestone	20 Ply	L2	-432	-190	-186	-2	0
23.5 R 25 (radial)	Goodyear	GP - 2B	L2	-64	-28	-28	-2	0
23.5 R 25 (radial)	Goodyear	RL - 2 +	L2	100	47	46	-2	0
23.5 R 25 (radial)	Michelin	XTLA	L2	-100	-44	-43	-2	0
23.5 - 25 (crossply)	Bridgestone	20 Ply	L3	-208	-92	-89	0	0
650/65 R25 (radial)	Michelin	XLD	L3	-196	-86	-85	-60	29
750/65 R25 (radial)	Michelin	XLD	L3	424	198	194	-6	205
23.5 R25 (radial)	Michelin	XRD1A	L4	256	120	117	36	0
23.5 R 25 (radial)	Goodyear	GP - 4B	L4	380	178	174	36	0
23.5 R 25 (radial)	Goodyear	RL - 5K	L5	704	392	322	36	0
23.5 R 25 (radial)	Michelin	XLDD2A	L5	572	267	261	36	0
23.5 R 25 (radial)	Michelin	XMINED2	L5	808	378	369	36	0
23.5-25 (crossply)	JCB	SITEMASTER	L3	-92	-44	-38	6	1
23.5R25 (radial)	JCB	EARTHMOVER	L3	160	76	65	1	6

Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	
Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	
Bucket equipment		Tipped teeth	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	
Bucket capacity AE heaped)	m ³	2.8	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5
Bucket capacity (struck)	m ³	2.210	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844
Bucket width	mm	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837
Bucket weight with wearparts	kg	1436	1508	1554	1623	1669	1623	1669	1380	1416	1495	1531	1495	1531
Maximum material density	kg/m ³	1468	1311	1222	1218	1140	1218	1140	1241	1158	1153	1079	1153	1079
Tipping load straight	kg	9688	9587	9520	9493	9427	9493	9427	9097	8753	9004	8942	9004	8942
Tipping load full turn	kg	8221	8128	8067	8038	7978	8038	7978	7697	7645	7608	7551	7608	7551
Payload at 50% FTTL	kg	4111	4064	4034	4019	3989	4019	3989	3848	3822	3804	3776	3804	3776
Maximum break out force	kN	175	163	155	152	145	152	145	146	140	137	132	137	132
M Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
N Roll back angle at full height	degrees	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°
O Roll back at carry	degrees	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°
P Roll back at ground level	degrees	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°
Q Load over height	mm	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994
R Dump height (45° dump)	mm	3960	3896	3854	4034	3993	3896	3790	3790	3748	3929	3887	3790	3748
S Dig depth	mm	109	109	109	91	91	109	109	109	109	91	91	109	109
T Reach at dump height	mm	1327	1393	1432	1277	1318	1393	1432	1497	1539	1383	1425	1497	1539
Reach maximum (45° dump)	mm	3046	3110	3152	2996	3038	3110	3152	3216	3258	3102	3144	3216	3258
Operating weight (includes 80kg operator and full fuel tank)	kg	20856	20928	20974	21043	21089	21043	21089	21120	21156	21235	21271	21235	21271

456/456e ZX – LOADER DIMENSIONS – Standard height arm

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – Standard height arm



Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres.

Tyre size	Manufacturer	Type	Rating	Op. weight kg	Tipping loads		Dimensions	
					Straight kg	Full turn kg	Vertical mm	Width mm
23.5 - 25 (crossply)	Bridgestone	20 Ply	L2	-432	-251	-246	-2	0
23.5 R 25 (radial)	Goodyear	GP - 2B	L2	-64	-38	-37	-37	0
23.5 R 25 (radial)	Goodyear	RL - 2 +	L2	100	62	61	-2	0
23.5 R 25 (radial)	Michelin	XTLA	L2	-100	-58	-57	-2	0
23.5 - 25 (crossply)	Bridgestone	20 Ply	L3	-208	-121	-118	0	0
23.5 - 25 (crossply)	Firestone	20 Ply	L3	-312	-181	-177	0	0
650/65 R25 (radial)	Michelin	XLD	L3	-196	-113	-112	-60	29
750/65 R25 (radial)	Michelin	XLD	L3	424	262	257	-6	205
23.5 R25 (radial)	Michelin	XRD1A	L4	256	158	155	36	0
23.5 R 25 (radial)	Goodyear	GP - 4B	L4	380	235	230	35	0
23.5 R 25 (radial)	Goodyear	RL - 5K	L5	704	435	425	36	0
23.5 R 25 (radial)	Michelin	XLDD2A	L5	572	353	345	36	0
23.5 R 25 (radial)	Michelin	XMINED2	L5	808	499	488	36	0
23.5-25 (crossply)	JCB	SITEMASTER	L3	-92	-69	-59	6	1
23.5R25 (radial)	JCB	EARTHMOVER	L3	160	120	103	1	6
Optional extra counterweight		-	-	800	1445	1211	0	0

		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	
Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	
Bucket type		General Purpose	General Purpose	Penetration	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	
Bucket equipment		Tipped teeth	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	
Bucket capacity (SAE heaped)	m ³	3.1	3.3	3.1	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5
Bucket capacity (struck)	m ³	2.791	2.991	2.791	2.933	3.137	2.933	3.137	2.497	2.687	2.648	2.844	2.648	2.844
Bucket width	mm	2837	2837	2811	2800	2800	2800	2800	2837	2837	2837	2837	2837	2837
Bucket weight with wearparts	kg	1602	1645	1612	1722	1765	1722	1765	1380	1416	1495	1531	1495	1531
Maximum material density	kg/m ³	2064	1925	2061	1920	1797	1920	1797	1874	1748	1743	1631	1743	1631
Tipping load straight	kg	15340	15235	15318	15211	15106	15211	15106	13975	13880	13857	13762	13857	13762
Tipping load full turn	kg	12797	12703	12776	12672	12577	12672	12577	11620	11534	11506	11419	11506	11419
Payload at 50% FTL	kg	6399	6352	6388	6336	6288	6336	6288	5810	5767	5753	5710	5753	5710
Maximum break out force	kN	172	165	172	161	154	161	154	153	147	143	137	143	137
M Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
N Roll back angle at full height	degrees	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°
O Roll back at carry	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
P Roll back at ground level	degrees	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°
Q Load over height	mm	3822	3822	3856	3831	3831	3822	3822	3822	3702	3831	3711	3822	3702
R Dump height (45° dump)	mm	2741	2699	2765	2887	2845	2741	2699	2621	2559	2767	2725	2621	2559
S Dig depth	mm	74	74	74	91	91	109	109	74	74	91	91	109	109
T Reach at dump height	mm	1183	1135	1207	1085	1039	1183	1135	1301	1255	1205	1159	1301	1255
Reach maximum (45° dump)	mm	2140	2182	2164	2032	2074	2140	2182	2260	2302	2152	2194	2260	2302
Operating weight (includes 80kg operator and full fuel tank)	kg	18823	18872	18833	18943	18992	18943	18992	19147	19196	19267	19316	19267	19316

LOADER – HT

Widely spaced four ram geometry provides the combination of excellent visibility with high bucket torque characteristics throughout the working arc. The pin, bush and sealing design on all pivot points provide extended maintenance intervals.

LOADER – ZX

Heavy-duty three ram geometry provides high breakout forces with excellent loading characteristics. The pin, bush and sealing design on all pivot points provide extended maintenance intervals.

TRANSMISSION

4-wheel drive, automatic smooth shift transmission electrically operated selector and gear change incorporating a speed inhibitor and modulation for smooth, responsive on-the-move direction and ratio changes. Single stage integral torque converter 4 forward and 3 reverse gears.

Type		Smooth shift powershift
Make & model		ZF 4WG 210
Torque converter stall ratio		2.813 : 1
1st gear	kph	6.9
2nd gear	kph	12.3
3rd gear	kph	24.4
4th gear (forward only)	kph	37.4

AXLES

Type	Open differential / Limited slip differential
Make & model	ZF MT-L 3095 MK2 front and rear
Overall axle ratio	23.334 : 1
Rear axle oscillation	± 12.5°

STEERING

Priority steer hydraulic system with emergency steering. Piston pump meters flow through steer valve to provide smooth low effort response. Steering angle ± 40°. Steer rams fitted with end rod damping to provide cushioned steering at full articulation. Adjustable steering column.

BRAKES

Hydraulic power braking on all wheels, operating pressure 80 bar. Dual circuit with accumulator back-up provide maximum safety under all conditions. In board mounted, oil immersed, multi-plate disk brakes with organic brake linings are environmentally acceptable. Parking brake, electro-hydraulic disc type operating on transmission output shaft.

456 (TIER 2 EMISSIONS)

6-cylinder wastegated turbo-charged, liquid cooled, direct injection diesel. Air-to-air charge-air cooling ensure low emissions and "clean-burn" combustion chamber provides minimum fuel consumption. A remote sump oil drain facility simplifies servicing.

Type		4 stroke direct injection
Model		6CT 8.3C
Capacity	litres	8.3
Bore	mm	114
Stroke	mm	135
Aspiration		Turbo charged
Cylinders		6
Max gross power to SAE J1995/ISO 14396	kW (hp) @ 2000rpm	161 (216)
Rated gross power to SAE J1995/ISO 14396	kW (hp) @ 2200rpm	153 (205)
Nett power to SAE J1349/EEC 80/1269	kW (hp) @ 2200rpm	147 (197)
Max torque	Nm @ 1400rpm	994

Emissions:-

Relevant standards EUNR MM Stage 2 USA CFR Part 89

(Complies with EU/EPA "Off Highway" Construction Equipment Regulation Stage 2).

456e (TIER 3 EMISSIONS)

6-cylinder wastegated turbo-charged, liquid cooled, direct injection common rail diesel. Air-to-air charge-air cooling ensure low emissions and "clean-burn" combustion chamber provides minimum fuel consumption. A remote sump oil drain facility simplifies servicing.

Type		4 stroke direct injection
Model		QSC 8.3
Capacity	litres	8.3
Bore	mm	114
Stroke	mm	135
Aspiration		Turbo charged
Cylinders		6
Max gross power to SAE J1995/ISO 14396	kW (hp) @ 2000rpm	160 (215)
Rated gross power to SAE J1995/ISO 14396	kW (hp) @ 2200rpm	160 (215)
Nett power to SAE J1349/EEC 80/1269	kW (hp) @ 2200rpm	154 (206.5)
Max torque	Nm @ 1400rpm	915

Emissions:-

US EPA Tier 3, CARB Tier 3, EU Stage 111A.

TYRES

A variety of tyre options are available including:

23.5 x 25 x 20 ply (L2). 23.5R25 RL-2+ (L2). 23.5 x 25 x 20 ply (L3). 23.5R25 XTLA (L2). 23.5R25 GP2B (L2). 23.5R25 VUT (L2). 650/65 R25 XLD (L3). 23.5R25 XHA (L3). 23.5R25 VMT (L3). 23.5R25 XMINED2 (L5). 750/65 R25 XLD (L3).

ELECTRICAL SYSTEM

24 volt negative ground system, 70 Amp alternator with 2 x 110 Amp hour low maintenance batteries. Isolator located in rear of machine. Ignition key start/stop and pre-heat cold start. Primary fuse box. Other electrical equipment includes quartz halogen, twin filament working lights, front/rear wash/wipe, heated rear screen, full road going lights, clock, gauge and warning light monitoring. Connectors to IP67 standard.

System voltage	Volt	24
Alternator output	Amp hour	70
Battery capacity	Amp hour	2 x 110

CAB

Resiliently mounted ROPS/FOPS structure (tested in accordance with EN13510 : 2000/EN13627 : 2000 (Level 2)). De - luxe operator environment combines ergonomically located controls with a high level of appointment and low internal noise levels. Entry/exit is via large rear hinged door and anti - slip steps. Excellent forward visibility is provided by a 3 section curved, laminated windscreen and full glazing below waistline. Extensive instrumentation includes electronic monitoring panel and display (EMS). Heating / ventilation provides balanced and filtered air distribution throughout the cab via a powerful 8 kW capacity heater. The unitary construction allows easy sealing and prevents ingress of dust. A transmission lock on the selector prevents inadvertent engagement and the loader controls can be isolated for safe road travel.
 Exterior power level 456 (Tier II): 72 Lp(A) 109 Lw(A)
 Exterior power level 456E (Tier III): 72 Lp(A) 106 Lw(A)

456/456e HT – LOADER HYDRAULICS

Variable displacement piston pump feed a "load sensing" system providing a fuel efficient and responsive distribution of power as required. Main services are servo actuated from a single lever (joystick) loader control. Auxiliary circuits controlled via additional lever or joystick mounted electrical buttons. Accumulator back-up is available to control loader in the event of loss of pump pressure.

Pump type	Twin variable displacement piston pump	
Pump 1 max. flow	l/min	163
Pump 1 max. pressure	bar	250
Pump 2 max. flow	l/min	163
Pump 2 max. pressure	bar	160
Hydraulic cycle times at full engine revs	seconds	
Arms raise (full bucket)	5.8	
Bucket dump (full bucket)	1.2	
Arms lower (empty bucket)	4.1	
Total cycle	11.1	

Ram dimensions	Bore	Rod	Closed centres	Stroke
Bucket ram x2	mm 130	75	1845	1270
Lift ram x2	mm 160	80	1290	744
Steer ram x2	mm 90	50	621	312

456/456e HT – ATTACHMENTS

An extensive range of attachments including pallet forks, crane jibs, high dumping buckets and timber grapples are available to fit directly or via the JCB quickhitch mounting.

456/456e HT – STANDARD EQUIPMENT

Loader: Bucket reset mechanism, loader arm kickout mechanism, loader control isolator, single lever or multi-lever servo control, high torque geometry combines with excellent visibility between arms.

Engine: Air cleaner 2 stage dry type – cyclonic with primary and safety elements, sedimenter, twin bowl fuel filters, alternator and air conditioning compressor drive belt guards, isolated cooling package with hydraulically driven cooling fan.

Transmission: Single lever shift control, speed inhibitor, neutral start, disconnect on footbrake and loader lever, disconnect isolator switch, direction changes and kickdown on gear selector and loader control lever.

Axles: Epicyclic wheel hub reduction, fixed front, oscillating rear.

Brakes: Multi-plate wet disc brakes, organic linings, dual circuit hydraulic power. Parking disc brake on transmission output shaft.

Hydraulics: Twin piston pumps with priority steer, emergency steer back-up, 2 spool loader circuit with accumulator support, 3rd and 4th spool auxiliary hydraulic circuits available as an option.

Steering: Adjustable steering column, "soft feel" steering wheel 5 turns lock to lock, resilient stops on max lock.

Cab: ROPS/FOPS safety structure, interior reading light, centre mounted master warning light. Electronic monitoring panel with LCD message display. 2-speed intermittent front windscreen wipe/wash and self park, single-speed rear windscreen wipe/wash and self park. 3-speed heater/demisting with replaceable air filter, LH and RH opening windows, sun visor, internal rear view mirror, external mirrors, adjustable suspension seat with belt and headrest, operator storage facilities, laminated windscreen, heated rear screen, loader control isolator, horn, adjustable armrest, heated mirrors.

Electrical: Road lights front and rear, parking lights, front and rear working lights, reverse alarm and light, rear fog light, battery isolator, radio wiring and speakers, 70 amp alternator, rotating beacon.

Bodywork: Front and rear fenders, side and rear access panels, flexible bottom step, full width rear counterweight, recovery hitch, lifting lugs.

456/456e HT – OPTIONAL EQUIPMENT

Air conditioning, limited slip differentials front/rear axles, Turbo 2 and dust buster pre-cleaner, tooth guard, replaceable bucket wearparts, epoxy coated radiator/coolers, automatically reversing cooling fan, stainless steel brake pipes, smooth ride system (SRS), hydraulic quickhitch with in-cab hydraulic pin isolation, full rear fenders, reversing camera (colour), auto greasing system, joystick or Multi-lever hydraulic controls, auxiliary hydraulic control on separate lever or joystick mounted (proportional), 24V to 12V in cab converter, cab screen guards, additional front and rear work lights, heated air suspension seat, light guards, front and rear blinds, engine block heater, biodegradable hydraulic oil, cab filtration options, fire extinguisher, number plate light kit, white noise reverse alarm, smart reverse alarm, parallel lift links (recommended for pallet forks), Super High Lift loader arms, canopy cab, Wastemaster cab, widecore radiator, sealed electrics, grease gun and cartridge, basic and full belly guard kits, mesh air intake screen, ARV kit, safety strut, transmission cooler bypass, non-heated mirrors, grease gun, LiveLink telematics.

456/456e HT – WASTEMASTER STANDARD EQUIPMENT

Machine as above including: basic and full belly guard kit, turbo 2 pre-cleaner, carbon cab air intake filter, front and rear light guards, widecore radiator, full Wastemaster branding, mesh air intake screen.

456/456e ZX – LOADER HYDRAULICS

Variable displacement piston pump feed a "load sensing" system providing a fuel efficient and responsive distribution of power as required. Main services are servo actuated from a single lever (joystick) loader control. Auxiliary circuit controlled via additional lever or joystick mounted electrical buttons. Accumulator back-up is available to control loader in the event of loss of pump pressure.

Pump type	Twin variable displacement piston pump				
Pump 1 max. flow	l/min	163			
Pump 1 max. pressure	bar	250			
Pump 2 max. flow	l/min	163			
Pump 2 max. pressure	bar	160			
Hydraulic cycle times at full engine revs		seconds			
Arms raise (full bucket)		5.8			
Bucket dump (full bucket)		1.2			
Arms lower (empty bucket)		4.1			
Total cycle		11.1			
Ram dimensions					
Ram dimensions	Bore	Rod	Closed centres	Stroke	
Bucket ram x1	mm	180	90	1120	
Lift ram x2	mm	160	80	1290	
Steer ram x2	mm	90	50	621	

456/456e ZX – ATTACHMENTS

An extensive range of attachments are available to fit directly or via the JCB quickhitch mounting.

456/456e ZX – STANDARD EQUIPMENT

Loader: Bucket reset mechanism, loader arm kickout mechanism, loader control isolator, single lever or multi-lever servo control, high breakout forces with excellent loading characteristics.

Engine: Air cleaner 2 stage dry type – cyclonic with primary and safety elements, sedimenter, twin bowl fuel filters, alternator and air conditioning compressor drive belt guards, isolated cooling package with hydraulically driven cooling fan.

Transmission: Single lever shift control, speed inhibitor, neutral start, disconnect on footbrake and loader lever, disconnect isolator switch, direction changes and kickdown on gear selector and loader control lever.

Axles: Epicyclic wheel hub reduction, fixed front, oscillating rear.

Brakes: Multi-plate wet disc brakes, organic linings, dual circuit hydraulic power. Parking disc brake on transmission output shaft.

Hydraulics: Twin piston pumps with priority steer, emergency steer back-up, 2 spool loader circuit with accumulator support, 3rd and 4th spool auxiliary hydraulic circuits available as an option.

Steering: Adjustable steering column, "soft feel" steering wheel 5 turns lock to lock, resilient stops on max lock.

Cab: ROPS/FOPS safety structure, interior reading light, centre mounted master warning light. Electronic monitoring panel with LCD message display. 2-speed intermittent front windscreen wipe/wash and self park, single-speed rear windscreen wipe/wash and self park. 3-speed heater/demisting with replaceable air filter, LH and RH opening windows, sun visor, internal rear view mirror, external mirrors, adjustable suspension seat with belt and headrest, operator storage facilities, laminated windscreen, heated rear screen, loader control isolator, horn, adjustable armrest, heated mirrors.

Electrical: Road lights front and rear, parking lights, front and rear working lights, reverse alarm and light, rear fog light, battery isolator, radio wiring and speakers, 70 amp alternator, rotating beacon.

Bodywork: Front and rear fenders, side and rear access panels, flexible bottom step, full width rear counterweight, recovery hitch, lifting lugs.

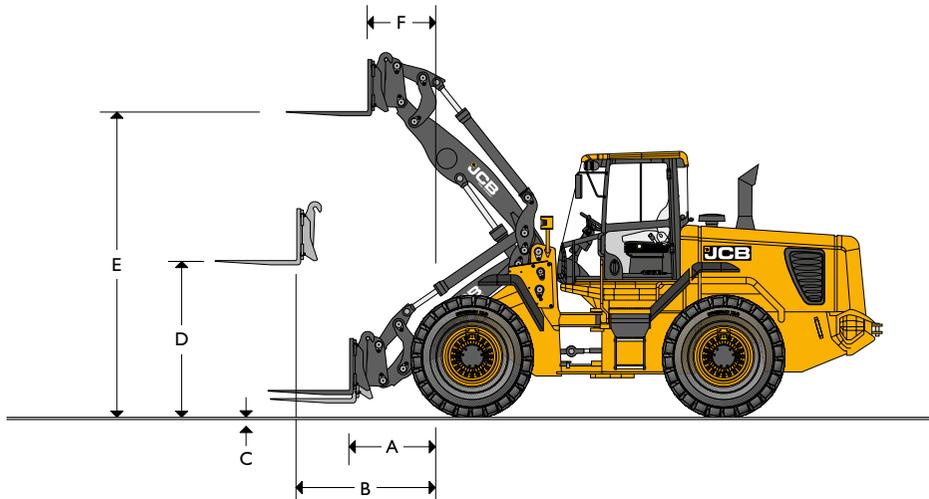
456/456e ZX – OPTIONAL EQUIPMENT

Air conditioning, limited slip differentials front/rear axles, Turbo 2 and dust buster pre-cleaner, tooth guard, replaceable bucket wearparts, epoxy coated radiator/coolers, automatically reversing cooling fan, stainless steel brake pipes, smooth ride system (SRS), hydraulic quickhitch with in-cab hydraulic pin isolation, full rear fenders, reversing camera (colour), auto greasing system, joystick or Multi-lever hydraulic controls, auxiliary hydraulic control on separate lever or joystick mounted (proportional), 24V to 12V in cab converter, cab screen guards, additional front and rear work lights, heated air suspension seat, extra counterweight, light guards, front and rear blinds, engine block heater, biodegradable hydraulic oil, cab filtration options, fire extinguisher, number plate light kit, white noise reverse alarm, smart reverse alarm, canopy cab, Wastemaster cab, LiveLink telematics, widecore radiator, sealed electrics, grease gun and cartridge, basic and full belly guard kits, mesh air intake screen, ARV kit, safety strut, transmission cooler bypass.

456/456e ZX – WASTEMASTER STANDARD EQUIPMENT

Machine as above including: basic and full belly guard kit, turbo 2 pre-cleaner, carbon cab air intake filter, front and rear light guards, widecore radiator, full Wastemaster branding, mesh air intake screen.

456/456e HT – LOADER DIMENSIONS – FORK FRAME WITH FORKS



LOADER DIMENSIONS – FORK FRAME WITH FORKS

	Standard height arm		Super high lift arm	
		mm		mm
Fork carriage width		1500		1500
Length of tines		1220		1220
A Reach at ground level		1175		2143
B Reach at arms horizontal		1851		2650
C Tine surface to ground level		50		50
D Arms horizontal height		1975		1975
E Arms maximum height		4194		5160
F Reach at maximum height		874		931
Payload **	kg	7808		5755
Tipping load straight	kg	11281		8314
Tipping load full turn (40°)	kg	9760		7193
Attachment weight	kg	590		590

Assumes the machine is fitted with Michelin 23.5R25 XHA (L3) tyres.

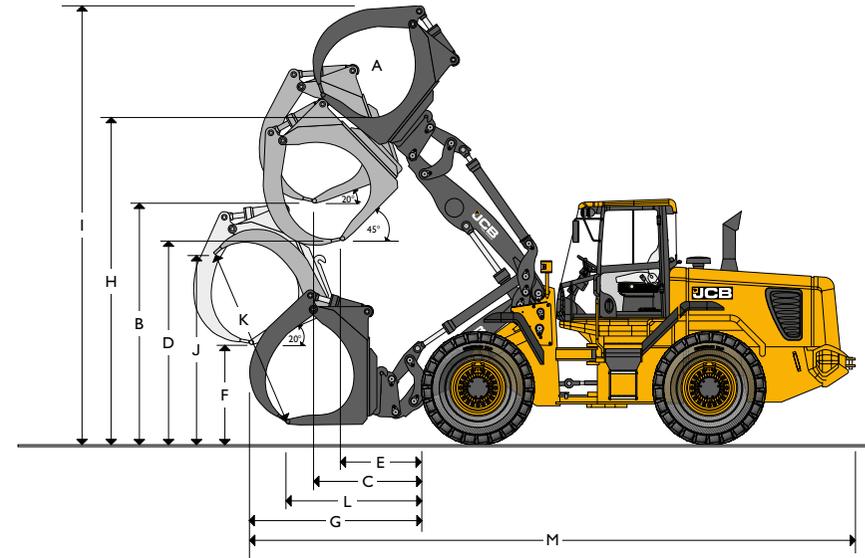
** At a centre of gravity distance of 600mm.

Based on 80% of full turn tipping load as defined by ISO 8313.

Manual fork spacings at 50mm increments.

Class 4A fork section 60mm x 150mm.

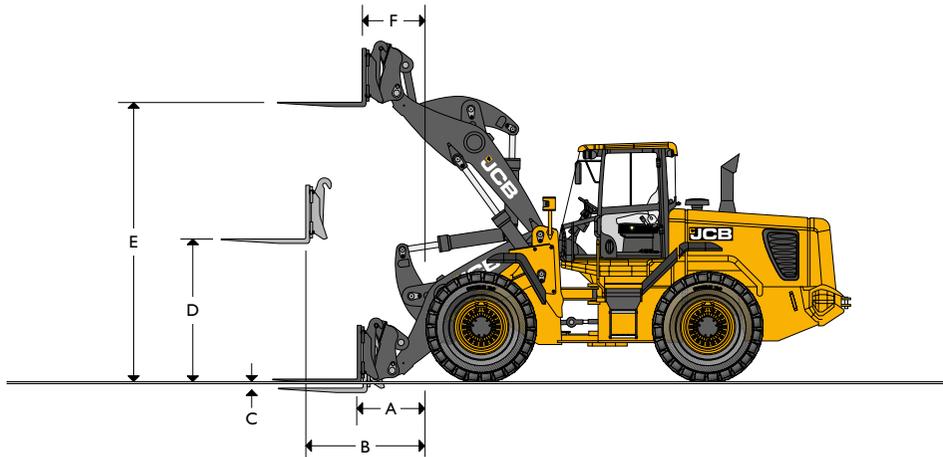
UNLOADING GRAPPLE DIMENSIONS – STANDARD HEIGHT ARM



UNLOADING GRAPPLE DIMENSIONS – STANDARD HEIGHT ARM

	Standard height arm	
		mm
A Grapple capacity	m ²	2.40
B Tine height at 20° dump		3707
C Reach at full height and 20° dump		1998
D Tine height at 45° dump		3087
E Reach at full height and 45° dump		1494
F Tine height, arms horizontal and 20° dump		1228
G Reach, arms horizontal and 20° dump		3086
H Maximum height inside grapple		5129
I Maximum height		7084
J Height at maximum opening		2357
K Maximum opening		2706
L Reach at ground level		2804
M Overall length		9524
Operating weight	kg	20320

Assumes the machine is fitted with Michelin 23.5R25 XHA (L3) tyres.

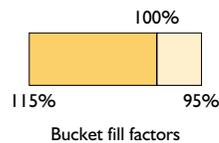
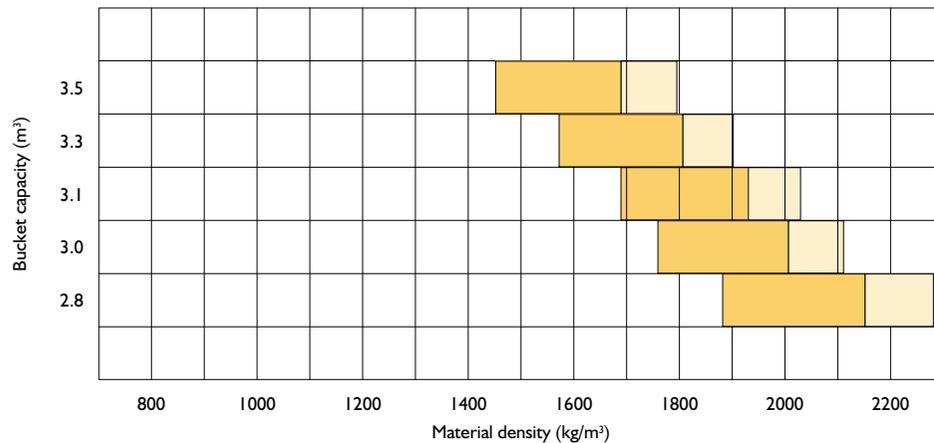


456/456e ZX – LOADER DIMENSIONS – FORK FRAME WITH FORKS

Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres		Standard arm
Fork carriage width	mm	1500
Length of tines	mm	1220
A Reach at ground level	mm	1084
B Reach at arms horizontal	mm	1695
C Below ground level	mm	16
D Arms, horizontal height	mm	1975
E Arms, maximum height	mm	3997
F Reach at maximum height	mm	735
Payload*	kg	7883
Tipping load straight	kg	11812
Tipping load full turn (40°)	kg	9853
Attachment weight	kg	590

*At the centre-of-gravity distance 600mm. Based on 80% of full turn tipping load as defined by ISO 8313. Manual fork spacings at 50mm increments. Class 4A Fork section 150mm x 60mm.

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