

SPECIFICATION



MINI EXCAVATOR | 16C-1/18Z-1/19C-1/19C-1 PC

Transport weight: 1479-1868kg Gross engine power: 11.7kW



CHOOSE YOURS.

Our I-2T new generation compact excavators are designed to match your exact requirements. Choose from 3 conventional tailswing models, the 16C-I, 19C-I and the 19C-I PC or the 18Z-I with zero tailswing.



CHOOSE TOUGH.

Hydraulic hoses are routed through the kingpost, boom and dipper to protect against site damage. Top-mounted boom ram reduces the risk of damage when loading.



CHOOSE EASY.

Pre-start checks are easier than ever with an external sight glass to check hydraulic oil levels and a quick to view analogue hour meter.



CHOOSE VALUE.

Our new generation minis are designed with your profits in mind with a simple, classic design, low cost maintenance and easy repairs.

CHOOSE QUICK.

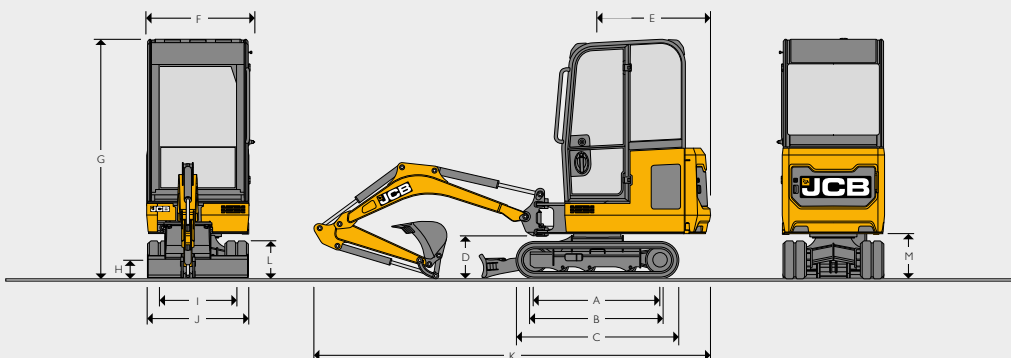
Utilise a quick turnaround with easy-to-clean sloping undercarriage, fast changeover of attachments and easy transportation with 10 tie-down points.



CHOOSE SAFE & SECURE.

Thatcham approved immobiliser, with remote pin code management, eliminates unauthorised starts. Optional LiveLink provides added security.

STATIC DIMENSIONS



Machine model		16C-1	18Z-1	19C-1	19C-1 PC
A	Sprocket idler centres	mm	1218	1218	1218
B	Track length on ground	mm	1220	1220	1220
C	Undercarriage overall length - rubber	mm	1578	1578	1578
	Undercarriage overall length - steel	mm	1578	1578	1578
D	Kingpost clearance	mm	409	409	409
E	Tailswing radius	mm	1103	685	1103
F	Overall width of superstructure	mm	996	996	996
G	Height over cab	mm	2324	N/A	2328
	Height over canopy	mm	2342	2340	2345
H	Ground clearance	mm	162	162	162
I	Track gauge - retracted/extended	mm	750-1110	750-1110	750-1110
J	Width over tracks / rubber / steel - retracted	mm	980	980	980
	Width over tracks / rubber / steel - extended	mm	1330	1330	1330
K	Transport length	mm	3860	3547	3860
L	Track height	mm	367	367	367
M	Counterweight clearance	mm	434	434	434

ENGINE

Machine model	16C-1, 18Z-1, 19C-1, 19C-1 PC	
Model	403J-07	
Fuel	Diesel	
Cooling	Water cooled	
Gross power ISO 14396	kW	11.7 @ 2550 rpm
Net power	kW	10.8 @ 2550 rpm
Max. torque ISO 14396	Nm	45.6 @ 2000 rpm
Displacement	cc	762
Gradeability	degrees	35°
Starter motor	kW	1.2
Battery	volt / amps	12V / 65AH
Alternator	amps (aircon)	60

UNDERCARRIAGE

Machine model		16C-1	18Z-1	19C-1	19C-1 PC
		Retractable	Retractable	Retractable	Retractable
No. of bottom rollers		3	3	3	3
Track width rubber	mm	230	230	230	230
Track width steel	mm	230	230	230	230
Travel speed - low	kph	2.4	2.4	2.4	2.4
Travel speed - high	kph	4.1	4.1	4.1	4.1
Tractive effort	kN	11.5	13.2	13.2	13.2

HYDRAULIC SYSTEM

Machine model		16C-1	18Z-1	19C-1	19C-1 PC
Pump	cc	18	18	18	18
Nominal output @ max rpm	lpm	42	42	42	42
Excavator/track main relief pressure	bar	205	235	235	235
Slew main relief pressure	bar	205	167	167	167
Auxiliary hydraulic pressure (Aux 1)	bar	200	200	200	200
Auxiliary hydraulic pressure (Aux 2)	bar	N/A	N/A	N/A	200
Auxiliary hydraulic flow (Aux 1)	lpm	32	32	32	32
Auxiliary hydraulic flow (Aux 2)	lpm	N/A	N/A	N/A	32
Hydraulic pump		Piston	Piston	Piston	Piston

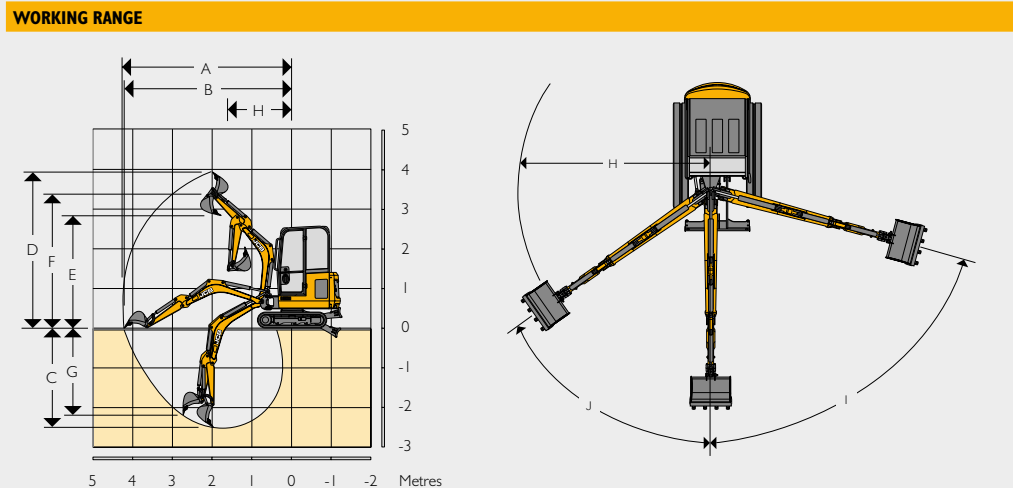
WEIGHTS		16C-1		18Z-1	19C-1		19C-1 PC	
Machine model		Canopy	Cab	Canopy	Canopy	Cab	Canopy	Cab
Operating weight*	kg	1639	1749	1749	1830	1910	1863	1943
FOPS (Falling Object Protective Structure) guard	kg	N/A	15	N/A	N/A	15	N/A	15
Steel tracks	kg	81	81	81	81	81	81	81
Long dozer	kg	9	9	9	9	9	9	9
Mechanical quickhitch	kg	14	14	14	14	14	14	14
Hydraulic quickhitch (without hoses)	kg	N/A	N/A	N/A	N/A	N/A	24	24
Gravemaster dipper	kg	N/A	N/A	N/A	5	5	5	5
Shipping weight**	kg	1545	1655	1655	1736	1816	1769	1849
Ground bearing pressure (rubber tracks)	kg/cm ²	0.35	0.36	0.33	0.35	0.36	0.36	0.37
Ground bearing pressure (steel tracks)	kg/cm ²	0.36	0.38	0.35	0.36	0.38	0.38	0.39
Transport weight (operator weight - 75kg)	kg	1564	1674	1674	1755	1835	1788	1868

*Operator weight to ISO 6016 including cab/canopy, rubber tracks, 950 dipper (16C-1, 19C-1 & 18Z-1), 1100 dipper (19C-1 PC), 300mm bucket, full tanks and a 75kg operator. **Shipping weight to ISO 6016 is mass of the base machine without operator, with fuel level at 10% of tank capacity.

SERVICE CAPACITIES		16C-1	18Z-1	19C-1	19C-1 PC
Fuel tank	ltr	18.5	20.5	18.5	18.5
Engine coolant	ltr	Canopy model: 4.2 Cab model: 4.7	Canopy model: 4.2	Canopy model: 4.2 Cab model: 4.7	Canopy model: 4.2 Cab model: 4.7
Engine oil	ltr	2.5	2.5	2.5	2.5
Hydraulic system	ltr	28	28	28	28
Hydraulic tank	ltr	15	15	15	15

OPERATOR ENVIRONMENT		16C-1	18Z-1	19C-1	19C-1 PC
Cab/canopy height	mm	1347 / 1364	na / 2347	1347 / 1364	1347 / 1364
Cab/canopy height with FOGS guard LEVEL I	mm	1366 / 1364	na / 2347	1366 / 1364	1366 / 1364
Cab/canopy length with FOGS guard LEVEL I	mm	1236 / 1427	1107	1236 / 1427	1236 / 1427
Cab/canopy length	mm	1202 / 1427	1107	1202 / 1427	1202 / 1427
Cab/canopy width	mm	976 / 978	978	976 / 978	976 / 978






















DOZER		16C-1	18Z-1	19C-1	19C-1 PC
Dozer length (STD) centre of boss	mm	787	787	787	787
Max. height above ground	mm	239	239	239	239
Dig depth below ground	mm	225	225	225	225
Approach angle	degrees	25.3	25.3	25.3	25.3
Width (without wings)	mm	980	980	980	980
Width (with wings)	mm	1340	1340	1340	1340
Height	mm	234	234	234	234

























		16C-1 (950mm Dipper)	16C-1 (1100mm Dipper)	18Z-1 / 19C-1 / 19C-1 PC (950mm Dipper)	18Z-1 / 19C-1 / 19C-1 PC (1100mm Dipper)	19C-1, 19C-1 PC (1344mm Gravemaster Dipper)
	Boom length	mm	1800	1800	1800	1800
A	Max. digging reach	mm	3899	4043	3899	4247
B	Max. digging reach on ground	mm	3834	3981	3834	4220
C	Max. digging depth – dozer up	mm	2271	2421	2271	2665
	Max. digging depth – dozer down	mm	2426	2576	2426	2819
D	Max. digging height	mm	3556	3667	3556	3847
E	Max. dump/load-over height	mm	2598	2637	2598	2818
F	Max. height to dipper nose pivot pin	mm	3116	3154	3116	3335
G	Max. vertical wallcut depth	mm	1933	2139	1933	2375
H	Min. front swing radius (no offset)	mm	1488	1517	1488	1565
	Min. front swing radius (fully offset)	mm	1171	1196	1171	1236
I	Boom swing left	degrees	75°	75°	75°	75°
J	Boom swing right	degrees	55°	55°	55°	55°
	Bucket rotation	degrees	201°	201°	201°	201°
	Dipper rotation	degrees	126°	126°	126°	126°
	Bucket tearout (power position)	kN	15.6	15.6	18	18
	Dipper tearout	kN	8.8	7.9	10.1	9.1
	Slew speed	rpm	7.9	7.9	7.9	7.9

EQUIPMENT									
Machine model	16C-1	18Z-1	19C-1	19C-1 PC	Machine model	16C-1	18Z-1	19C-1	19C-1 PC
SERVICE AND MAINTENANCE					PROTECTION AND SAFETY				
Beacon ready kit	•	•	•	•	ROPS, TOPS & FOGS certified canopy	•	•	•	•
Single element air cleaner	•	•	•	•	ROPS & TOPS certified cab	+		+	+
500 hours dig end greasing intervals	•	•	•	•	Internal lockable toolbox	•	•	•	•
Grease gun & cartridge	+	+	+	+	Protected boom work light	•	•	•	•
Toolkit	+	+	+	+	2GO hydraulic isolation	•	•	•	•
Automatic glow plug				+	Cesar Data Tag (UK ONLY)	•	•	•	•
TRACKS AND UNDERCARRIAGE					EXTERNAL EQUIPMENT				
230mm short pitch rubber tracks	•	•	•	•	Standard dipper (mm)	950	950	950	1100
Two speed tracking	•	•	•	•	Dipper options (mm)	1100	1100	1100/1344	950/1344
Retractable undercarriage	•	•	•	•	Tie down points	•	•	•	•
Extendable dozer blade	•	•	•	•	LED beacon	+	+	+	+
Heavy duty recoiled tracked tensioners	•	•	•	•	Halogen work lights	+	+	+	+
230mm long pitch rubber tracks	+	+	+	+	Heavy duty kingpost	•	•	•	•
230mm steel tracks	+	+	+	+	Exterior mirrors	+	+	+	+
Long dozer blade	+	+	+	+	Full bucket range	+	+	+	+
Auto kick down track motors	+	+	+	•	Mechanical quick hitch	+	+	+	+
OPERATOR STATION					Hydraulic quick hitch				
LED worklights	+	+	+	+	Thumb ready dipper	+	+	+	+
Full audio visual warning systems	•	•	•	•	STANDARD •				
Full control isolation	•	•	•	•	OPTIONAL +				
12 volt power socket	•	•	•	•					
ISO servo controls	•	•	•	•					
Static seat	•	•	•	•					
Electro-proportional thumb controlled dual flow auxiliary				+					
Dual patterned controls (ISO/SAE changeover)	+	+	+	+					
Fabric suspension seat	+		+	+					
Vinyl suspension seats	+	+	+	+					
LED interior lights	+		+	+					
Sunblind	+	+	+	+					
Fire extinguisher	+	+	+	+					
Track lever pedals	+	+	+	+					
Full radio kit	+		+	+					
HYDRAULICS									
Hydraulic slew travel lock	•	•	•	•					
Single acting auxiliary circuit	•	•	•	•					
Variable displacement pump	•	•	•	•					
Straight line travel circuit	•	•	•	•					
ORFS hydraulics	•	•	•	•					
Quick release auxiliary couplers	•	•	•	•					
Double acting auxiliaries	+	+	+	+					
Auxiliary vent				•					

LIFT CAPACITIES – STANDARD DOZER. 230MM RUBBER TRACKS. 1100MM DIPPER. NO ATTACHMENTS **16C-I**

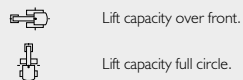
Load Point	1.5m			2.0m			2.5m			3.0m			3.5m			Capacity at maximum reach						
																						Distance
Height	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Dozer Up	Dozer Down	Over Side	Distance
m	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm
2.5							230	278*	294*										238	326*	328*	2800
2.0							239	291*	298*	212	307*	303*							227	311*	261	3250
1.5				330*	352*	347*	255	356*	352*	203	332*	327*							176	309*	235	3450
1.0	620	832*	781*	404	534*	527*	300	419*	411*	263	355*	287	182	295*	224	182	295*	224	182	295*	224	3500
0.5	437	926*	688	347	682*	518	290	477*	363	215	372*	272	182	298*	226	163	283*	212	163	283*	212	3600
0	417	830*	640	330	674*	516	275	512*	359	200	371*	279	171	279*	230	171	279*	230	171	279*	230	3500
-0.5	512	791*	737*	446	599*	443	319	451*	343	244	338*	278							182	267*	268*	3300
-1.0	493	658*	619*	356	486*	498*	285	378*	371*	210	267*	285*							184	256*	256*	3100

LIFT CAPACITIES – 230MM RUBBER TRACKS, 1800MM BOOM, 1100MM DIPPER, NO BUCKET. **18Z-I**

Load Point	1.5m				2.0m				2.5m				3.0m				3.5m				Capacity at maximum reach					
																									Distance	
Height	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Distance	
m	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm
2.5					387*	164	398*	304*	336*	155	313*	351*									301*	139	280*	346*	2690	
2.0					379*	159	390*	329*	331*	255*	311*	315*	218	115	245*	420*					218	115	212	420*	3000	
1.5					364*	151	374*	426*	383*	143	370*	400*	221	107	257*	386*					175	87	173	359*	3300	
1.0	751*	305	827*	950*	452*	185	535*	621*	293	136	279	492*	263	97	215	424*	203*	80	170	364	203*	80	170	364*	3500	
0.5	714	207	529	976*	492	167	377	742*	321	123	279	540*	218	100	216	437*	199*	74	167	348	199*	74	167	348*	3500	
0	458	171	446	932*	357	146	350	733*	401	100	242	541*	202	95	195	411*				170	76	165	331*	3400		
-0.5	615	161	438	835*	327	125	314	631*	274	99	241	484*	197	100	197	359*				179	86	193	312*	3250		
-1.0	392	209*	402	686*	263	125	287	555*	212	106	221	403*	183	92	196	298*				183	92	196	298*	3000		
-1.5	396	214	406	464*	269	128	292	383*	269											236	114	255	342*	2200		

LIFT CAPACITIES – 230MM RUBBER TRACKS, 1800MM BOOM, 1100MM DIPPER, NO BUCKET. **19C-I**

Load Point	1.5m				2.0m				2.5m				3.0m				Capacity at maximum reach									
																									Distance	
Height	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Distance	
m	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm
2.5									401*	270	404*	420*									401*	270	404*	420*	2500	
2.0									372*	363*	376*	396*	404*	224	392*	412*	404*	224	392*	412*	404*	224	392*	412*	3000	
1.5					465	439*	479*	506*	432*	278	445*	460*	398*	211	397*	417*	367*	188	371*	394*	367*	188	371*	394*	3250	
1.0	942*	496	952*	987*	698	380	694*	732*	522*	280	524*	550*	430*	228	430*	451*	296	187	316	396*	296	187	316	396*	3400	
0.5	718*	443	766	985*	599	348	617	806*	437	275	443	585*	343	214	363	460*	286	191	303	378*	286	191	303	378*	3300	
0	840*	463	902*	885*	573	349	581	753*	435	269	449	586*	346	215	346	437*	346*	189	361*	363*	346*	189	361*	363*	3300	
-0.5	856*	410	799*	820*	642	306	606*	634*	505*	258	452*	463*	385*	204	345*	345*	323*	197	313*	318*	323*	197	313*	318*	3250	
-1.0	616*	403	668*	668*	509	302	518*	518*	383*	251	372*	372*					296*	231	295*	294*	296*	231	295*	294*	2900	
-1.5					403*	298	413*	308*									330*	252*	338*	252*	330*	252*	338*	252*	2230	



- Notes:**
1. Lifting capacities are based on ISO 10567, that is: 75% of minimum tipping load or 87% of hydraulic lift capacity, whichever is the less. Lifting capacities marked* are based on hydraulic capacity.
 2. Lift capacities assume that the machine is on firm level ground and equipped with an approved lifting point.
 3. A bucket must be fitted when lifting, the weight of this bucket must be deducted from the above lift capacities.
 4. Lift capacities may be limited by local regulations. Please refer to your dealer.

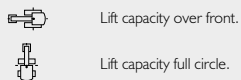
LIFT CAPACITIES – 230MM RUBBER TRACKS, 1800MM BOOM, 1100MM DIPPER, NO BUCKET. 19C-I PC

Load Point	1.5m				2.0m				2.5m				3.0m				3.5m				Capacity at maximum reach				Distance mm				
																													
Height m	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg	Extended kg	Retracted kg	Dozer Up kg	Dozer Down kg					
2.5					520*	417	540*	439*	332*	319*	292*	301*													290*	277	270*	327*	2690
2.0					564*	410	586*	476*	334*	321*	297*	311*	373*	219	341	357*									373*	219	341	357*	3000
1.5					615*	396	634*	615*	402*	298	375*	392*	385*	220	356	375*									296	181	281	349*	3300
1.0	689*	430	837	962*	644*	407	613*	646*	494*	286	461*	482*	395*	218	380	398*	274	170	264	336*	274	170	264	336*	274	170	264	336*	3500
0.5	665	417	789	986*	591	359	634	812*	451	273	454	575*	339	209	390	433*	267	165	272	344*	267	165	272	344*	267	165	272	344*	3500
0	780	490	795	958*	566	359	599	769*	424	267	439	552*	257	205	353	438*									306*	170	328*	332*	3400
-0.5	918*	494	902*	920*	673*	359	590	724*	492*	272	432	532*	371*	214	378	392*									308*	191	313*	324*	3250
-1.0	701*	479	705*	788*	551*	350	559*	596*	424*	266	421*	442*	290*	248*	323*	334*									290*	248*	323*	334*	3000
-1.5	512*	476	480*	527*	460*	360	412*	428*																	354*	298	348*	388*	2200

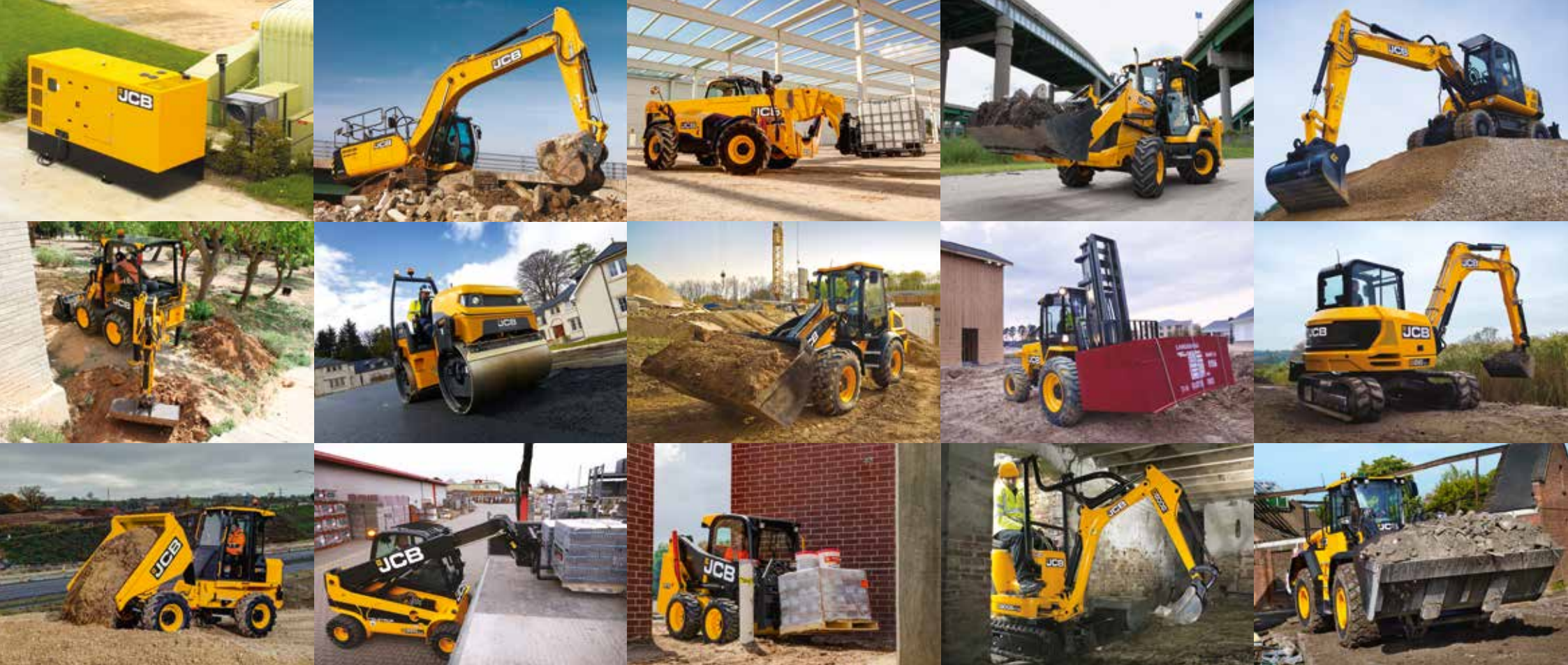
PSII NOISE/ VIBRATION 19C-I / 16C-I / 18Z-I / 19C-I / 19C-I PC

Noise and Vibration		Uncertainty		Measurement conditions	
Noise at the operator station (LpA)	78 dB	(KpA)	± 1 dB	ISO 6396: 2008	
Noise emission from the machine (LWA)	93 DB	(KWA)	± 1 dB	ISO 6395: 1988	
Hand Arm Vibration (m/s ²)					
Tracking duty	≤ 2.5	(K)	*	EN ISO 5349-2: 2001	Based upon a test cycle defined in SAE J 1166
Low Idle & Excavating duty					
Whole Body Vibration (m/s ²)	0.41	(K)	0.21	ISO 2631-1: 1997	

* Based on 50% uncertainty of measurement.



- Notes:**
1. Lifting capacities are based on ISO 10567, that is: 75% of minimum tipping load or 87% of hydraulic lift capacity, whichever is the less. Lifting capacities marked* are based on hydraulic capacity.
 2. Lift capacities assume that the machine is on firm level ground and equipped with an approved lifting point.
 3. A bucket must be fitted when lifting, the weight of this bucket must be deducted from the above lift capacities.
 4. Lift capacities may be limited by local regulations. Please refer to your dealer.



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