




ELECTRIC MINI EXCAVATOR | 19C-1E

Transport weight: 4,027 lb Zero emissions. Lithium-ion technology.





A yellow JCB E-TECH electric machine is shown in a confined space, likely a tunnel or underground construction site. The machine is positioned on a concrete floor, and a worker in an orange safety suit is operating it. The background features a white wall with a green exit sign and a wooden structure. The machine has "JCB ELECTRIC" written on its side.

JCB E-TECH ELECTRIC PRODUCTS

**Zero emissions. Quieter than many household appliances.
Complete a full day's work on a single charge.**

JCB is leading the way in clean technology and the reduction of harmful exhaust and noise emissions.

The JCB 19C-IE is the first machine of the new JCB E-TECH range of clean technology electric products that output zero emissions at the point of use without any compromise on performance. And being five times quieter than a comparable diesel-powered models, JCB E-TECH machines are ideally suitable for urban job sites, sensitive environments and enclosed spaces.

The JCB 19C-IE is the first of the electric generation.

JCB E-TECH

CHOOSE A FULL DAY'S WORK

THE I9C-IE DELIVERS THE FREEDOM TO WORK ANYWHERE, ANYTIME. WITH THREE CHARGING OPTIONS, INCLUDING QUICK CHARGING, YOU CAN POWER THROUGH A FULL SHIFT ON A SINGLE CHARGE.

The standard 4-battery pack delivers 5 hours of continuous use, equivalent to typical use throughout a full day.

During use, the remaining battery charge is monitored via a gauge on the instrument panel.

1 With three charging options—110 V, 230 V and 415 V—the I9C-IE can be put to work on a limitless number of applications and charged at any work site with access to electrical power.

2 The electro proportional controls feature an auxiliary thumb switch for precision control of attachments.

With a low operating weight and 10 tie down points, the I9C-IE can be easily towed between job sites without a commercial drivers license (subject to local regulations).



3 The JCB hydraulic system allows for smooth, accurate operation for improved productivity. Regardless of the operator's experience, the 19C-IE is easy to use.

4 Impressive 201-degree bucket rotation enables excellent spoil retention, especially when loading trucks.

Dipper lengths are 3 feet 1-³/₈ inches; 3 feet 7-⁵/₁₆ inches; 4 feet 4-²⁹/₃₂ inches.

5 The canopy offers 270-degree visibility. An optional poly-screen protects the operator from flying debris when using a hammer attachment.

6 Graphite-impregnated bushes extend greasing intervals to 500 hours, which saves downtime and boosts productivity.

7 The dozer geometry minimizes material build up. The swing out dozer wing extensions eliminate the need for additional tools.



4



7

CHOOSE **ECONOMICAL**

THE NEW I9C-IE REDUCES OPERATING COSTS: THERE'S NO NEED FOR COSTLY EMISSIONS EXTRACTION. THERE'S NO NEED TO MONITOR AN ELECTRICAL TETHER. THERE ARE NO ENGINE FLUIDS TO MAINTAIN. AND ELECTRICITY COSTS A LOT LESS THAN DIESEL!



The lithium-ion batteries require no maintenance; daily checks are dramatically reduced.

1 Standard two-speed tracking is operated by an easy-to-use button on the dozer lever.

2 The hydraulic system allows the selection of excavator functions while the machine is traveling in a straight-line, for improved productivity.

3 The machine operates at just 86 dB, which is quieter than some household appliances and significantly quieter than comparable diesel machines, allowing the operator to easily communicate with others on the work site.



4 Auto-idle reduces the engine speed (RPM) when the machine is idle for a set amount of time, to preserve battery charge.

5 Minimal front swing radius allows the machine to operate in confined workspaces without compromising load over height.

A two-year warranty applies to the lithium-ion batteries.

With no required daily greasing, easy access for maintenance and faster cleaning, the machine can be quickly turned around between jobs or between rental customers.

The 19-CIE has fewer serviceable parts than a diesel machine, resulting in faster and less costly scheduled maintenance requirements at 500 hours, 1,000 hours and 2,000 hours.



The 19C-IE is equipped with an auto kick-up feature which distributes power to preserve battery life and allow faster tracking speed.

CHOOSE SAFE

WITH NO ELECTRICAL TETHER, ZERO EMISSIONS, LOW NOISE LEVELS AND JCB'S 2GO SAFETY SYSTEM, THE NEW I9C-IE ENSURES A SAFER WORKPLACE FOR OPERATORS AND OTHERS ON THE JOB SITE.

The I9C-IE incorporates instrumentation proven on JCB's New Generation excavator range, including an integrated membrane switch immobilizer pad for increased safety.

The canopy is ROPS, TOPS and FOGS rated for full safety compliance.

1 For extra safety, all services are isolated when the control pod is raised.

2 The machine features a single-point, lockable electrical service-disconnect switch.

3 Without an electric tether, or "umbilical cord", the I9C-IE presents fewer hazards for others on the job site.

Pre-start checks are made safer by the ability to check hydraulic oil levels from outside of the machine without having to turn the machine on.

4 A panel to the right of the operator includes intuitive button functions, easy to read indicators and warnings to help the operator maintain awareness of the machine's status.

5 The service door opens 180 degrees to access all major electrical components. Maintenance points and the electrical isolator are accessed via a separate access panel.

6 A lift overload audible warning system reduces the risk of unsafe operation.

7 An optional operator presence switch and seat belt isolation switch provide additional peace of mind.



With zero emissions at point of use, the I9C-IE saves operators and other workers from exposure to exhaust gases.



An automatic slew lock reduces the chance of accidental operation or movement on site or while the machine is being transported.

8 JCB's unique 2GO system isolates all controls until the 2GO button is activated. A Thatcham-approved immobilizer minimizes the possibility of an unauthorized start.

** Region specific.*

9 The spacious operator station combines with the large viewing area to give excellent all-around visibility.

10 Available mechanical or hydraulic quick hitches allow the operator to switch between attachments quickly and safely.



CHOOSE QUIET

THE I9C-IE GENERATES LESS NOISE, MAKING IT IDEAL FOR URBAN JOB SITES AND INDOOR APPLICATIONS. IT COULD ALSO OPERATION AFTER TYPICAL CURFEWS.

1 With noise at the operator station 10 dB lower than a conventional, diesel machine, the operator can more easily communicate with others on the job site.

External noise is also reduced by 6 dB (compared to diesel), making the I9C-IE ideal for noise sensitive environments.

2 A blue indicator light shows when the machine is running.

3 The I9C-IE is ideally suited to noise- and emissions-sensitive environments, and may enable work outside of regular hours, to maximize time on site and speed up the job.

Three single-flanged bottom rollers, allied with short-pitch tracks, ensure a quiet, smooth ride.





CHOOSE TOUGH

THE NEW JCB 19C-IE ELECTRIC MINI EXCAVATOR IS BUILT TO WITHSTAND THE TOUGHEST OF JOB SITES. WITH LONG-LASTING COMPONENTS AND EASY, COST-EFFECTIVE REPAIRS, THE 19C-IE MINIMIZES DOWNTIME AND MAXIMIZES PROFITS.

All hydraulic components are assembled within a hydraulic “clean room”; multi-stage hot tests and oil detection processes ensure reliability.

ARCO coating protects dig-end pins from corrosion.

1 Hoses are routed through the boom, dipper and kingpost for extra protection. O-ring faced seals provide excellent sealing throughout the hydraulic system.

An extensive testing and development program ensures the longevity and efficiency of every detail of the electrical system, right down to the heavy-duty cables.

2 Durable, re-bushable pivots on the heavy-duty kingpost optimizes service life and contributes to the low cost of ownership.

The durable H-frame undercarriage provides rigid support with an open design that allows spoil to fall away.

3 Proven automotive technology and state-of-the-art manufacturing processes ensure the highest build quality, reliability, durability, service life and machine uptime.



2




All-steel bodywork withstands knocks and is cost effective to repair if needed.



1



3



A top-mounted boom ram reduces the risk of damage when working in confined spaces.

For ultimate rigidity, the extending undercarriage beams are constructed from 1-inch solid steel plate.

CHOOSE PEACE OF MIND

WE'VE ANTICIPATED THE MOST FREQUENTLY ASKED QUESTIONS ABOUT THIS NEW TECHNOLOGY AND ANSWERED THEM BELOW. OF COURSE, IF YOU HAVE ANY OTHERS, YOUR LOCAL JCB DEALER WILL BE HAPPY TO ASSIST.

Q. HOW DOES THE 19C-IE ELECTRIC MINI EXCAVATOR DIFFER FROM THE DIESEL 19C-1?

A. The machine shares the same structure, canopy, dig end, hydraulics and controls as the diesel model and performs in exactly the same way. The only change is that the power pack changes from a diesel to electric.

Q. HOW LONG CAN I WORK ON A FULL CHARGE?

A. The 4-battery pack provides for five hours of continuous use, which is typical of actual machine usage in a standard day's work (subject to the type of job).

Q. HOW LONG DOES IT TAKE TO CHARGE?

A. The 19C-IE with the standard 4-battery pack requires 10.5 hours charge time from a 110 V supply or 5 hours charge time from a 230 V supply. The Fast Charge option enables full charging in less than 2.5 hours from a 415 V supply.

Q. HOW CAN I ENSURE THE SECURITY OF THE MACHINE, PARTICULARLY THE HIGH-VALUE BATTERIES?

A. The batteries sit deep within the structure of the machine and cannot be easily stolen ... in fact, they would take several hours to remove.

Q. WHAT WARRANTY DOES JCB OFFER ON THE 19C-IE?

A. The warranty on the machine and batteries is two years.



LIVELINK, WORK SMARTER.

LiveLink tracks the efficiency of your machines to maximize ROI.

- Manage your fleet from anywhere
- Reduce operating costs
- Improve productivity
- Monitor fuel and consumption*
- Receive reports by day / week / month

**For machines with electronic engine management system only*

LiveLink sends service alerts and diagnostic warnings for effective maintenance planning.

- Machine health alerts
- Machine service alerts
- Accurate hours recorded
- Detailed machine history



LiveLink reports the exact location, movement and activity of your machine for improved security.



- Pinpoint machine location
- 24/7 update on your phone/tablet
- Real-time curfew alerts
- Real-time geofence alerts
- Back-up battery
- Tow-away alert

Machine Servicing Agreement

Superior Build Quality

Enhanced Dealer Support

JCB LiveLink



Note: Please consult your local dealer for LiveLink availability.

VALUE ADDED

WHATEVER YOU NEED AND WHEREVER YOU ARE, THE DEPENDABLE JCB DEALER NETWORK IS HERE TO MAKE SURE YOUR MACHINERY PERFORMS TO ITS FULL POTENTIAL.



1

1 JCB Technical Support Service provides instant access to factory expertise, day or night. JCB's Finance team is always on hand to provide fast, flexible, competitive quotes.



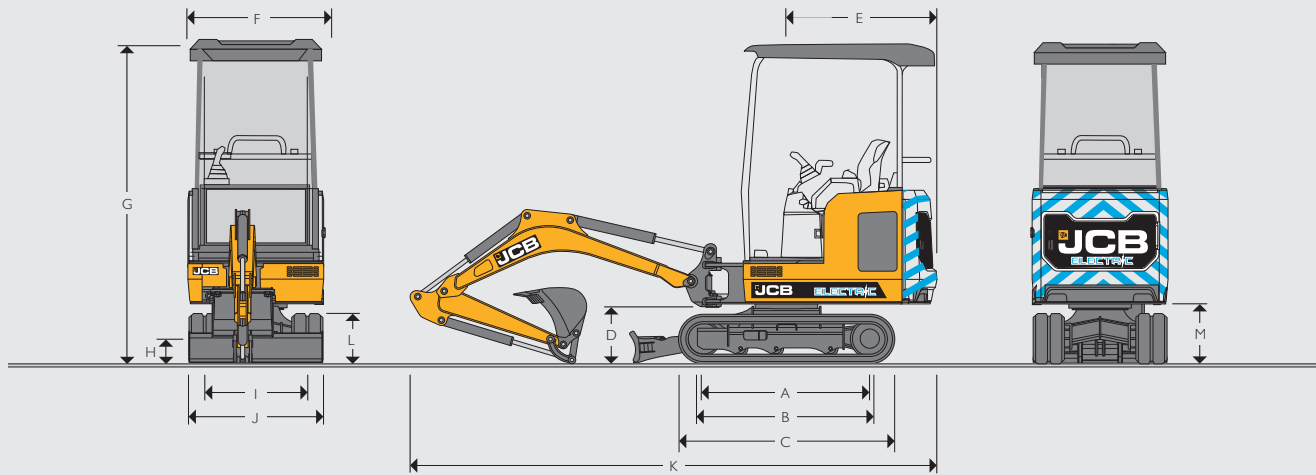
2

2 The global network of JCB Parts Centers is a model of efficiency. Four JCB parts distribution centers in North America maintain 95 percent parts availability and 99 percent same-day dispatch. Genuine JCB parts work in perfect harmony with your machine for optimum performance and productivity.



Note: JCB LIVELINK and JCB YELLOW SHIELD may not be available in your region. Please check with your local JCB dealer.

STATIC DIMENSIONS



STATIC DIMENSIONS

A	Sprocket idler centers	ft-in (mm)	4-0 (1,218)
B	Track length on ground	ft-in (mm)	4-0 (1,220)
C	Undercarriage overall length – rubber	ft-in (mm)	5-2 (1,578)
	Undercarriage overall length – steel	ft-in (mm)	5-2 (1,578)
D	Kingpost clearance	ft-in (mm)	1-4 (409)
E	Tailswing radius	ft-in (mm)	3-7 (1,103)
F	Overall width of superstructure	ft-in (mm)	3-3 (996)
G	Height over canopy	ft-in (mm)	7-8 (2,345)
H	Ground clearance	ft-in (mm)	0-6 (162)
I	Track gauge – retracted/extended	ft-in (mm)	2-5/3-7 (750/1,110)
J	Width over tracks / rubber / steel – retracted	ft-in (mm)	3-2 (980)
	Width over tracks / rubber / steel – extended	ft-in (mm)	4-4 (1,330)
K	Transport length	ft-in (mm)	12-6/12-8 (3,815/3,860)
L	Track height	ft-in (mm)	1-2 (367)
M	Counterweight clearance	ft-in (mm)	1-5 (434)

POWER SOURCE

Battery type	Manganese laminated Lithium-ion
Gross capacity	19.8 kWh
System voltage	48 V
Indicative run time	5 hours, based upon typical duty cycle.
Zero emissions at point of use	

CHARGING

On-board charger allowing direct connection to AC mains power supply	
Indicative Charge Time 20-80% subject to environmental conditions	On-board @ 110 V – 10.5 hrs
	On-board @ 230 V – 5 hrs
Off-board fast charge (optional) @ 415 V	2 – 2.5 hrs
Charging cable plug type	16 A 110 V (Yellow) 16 A 230 V (Blue) add 16 A 415 V (Red)

MOTOR

Motor Type	3 Phase AC Permanent Magnet
Motor Power	7 kW continuous, 20 kW peak
Operating Modes	L: 1,200 RPM G: 1,600 RPM H: 1,800 RPM

UNDERCARRIAGE

Track width rubber	ft-in (mm)	0-9 (230)
Travel speed – low	mph (km/h)	1.5 (2.4)
Travel speed – high	mph (km/h)	2.5 (4.1)
Tractive effort	lb (kN)	2,967 (13.2)

HYDRAULIC SYSTEM

Nominal output @ max. RPM	gpm (l/min)	11 (42)
Excavator/track main relief pressure	psi (bar)	3,408 (235)
Slew main relief pressure	psi (bar)	2,422 (167)
Auxiliary hydraulic pressure (Aux 1)	psi (bar)	2,900 (200)
Auxiliary hydraulic pressure (Aux 2)	psi (bar)	2,900 (200)
Auxiliary hydraulic flow (Aux 1)	gpm (l/min)	8 (32)
Auxiliary hydraulic flow (Aux 2)	gpm (l/min)	8 (32)

WEIGHTS

Operating weight*	lb (kg)	4,193 (1,902)
Long dozer	lb (kg)	19 (9)
Mechanical quick hitch	lb (kg)	30 (14)
Hydraulic quick hitch (without hoses)	lb (kg)	52 (24)
Gravemaster dipper	lb (kg)	11 (5)
Shipping weight**	lb (kg)	3,899 (1,769)
Ground bearing pressure (rubber tracks)	psi (kg/cm ²)	5.1 (0.36)
Transport weight (operator weight - 165 lb)	lb (kg)	4,027 (1,827)

*Operator weight to ISO 6016 including canopy, rubber tracks, 3'1" dipper, 3'7" dipper, 11" bucket, 165 lb operator. **Shipping weight to ISO 6016 is mass of the base machine without operator.

SERVICE CAPACITIES

Hydraulic system	gal (l)	7 (28)
Hydraulic tank	gal (l)	3 (15)

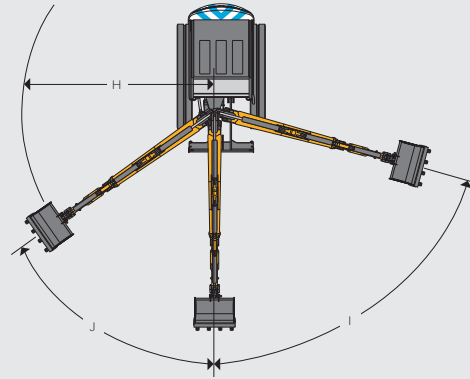
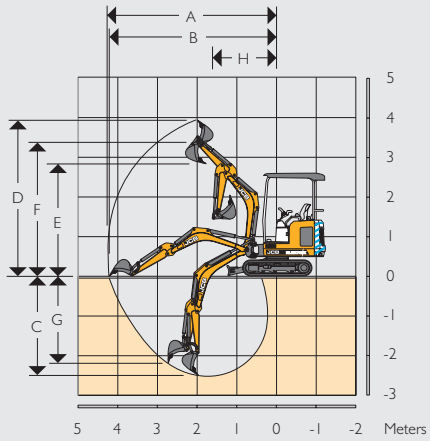
OPERATOR ENVIRONMENT

Canopy height	ft-in (mm)	4-5 (1,364)
Canopy length	ft-in (mm)	4-8 (1,427)
Canopy width	ft-in (mm)	3-2 (978)

DOZER

Dozer length (STD) center of boss	ft-in (mm)	2-7 (787)
Max. height above ground	ft-in (mm)	0-9 (239)
Dig depth below ground	ft-in (mm)	0-8 (225)
Approach angle	degrees	25.3
Width (without wings)	ft-in (mm)	3-2 (980)
Width (with wings)	ft-in (mm)	4-4 (1,340)
Height	ft-in (mm)	0-9 (234)

WORKING RANGE



		3'1" (950 mm) Dipper	3'7" (1,100 mm) Dipper	4'5" (1,344 mm) Gravemaster Dipper	
	Boom length	ft-in (mm)	5-10 (1,800)	5-10 (1,800)	5-10 (1,800)
A	Max. digging reach	ft-in (mm)	12-9 (3,899)	13-3 (4,043)	13-11 (4,247)
B	Max. digging reach on ground	ft-in (mm)	12-7 (3,834)	13-0 (3,981)	13-10 (4,220)
C	Max. digging depth – dozer up	ft-in (mm)	7-5 (2,271)	7-11 (2,421)	8-9 (2,665)
	Max. digging depth – dozer down	ft-in (mm)	7-11 (2,426)	8-5 (2,576)	9-3 (2,819)
D	Max. digging height	ft-in (mm)	11-8 (3,556)	12-0 (3,667)	12-7 (3,847)
E	Max. dump/load-over height	ft-in (mm)	8-6 (2,598)	8-7 (2,637)	9-3 (2,818)
F	Max. height to dipper nose pivot pin	ft-in (mm)	10-2 (3,116)	10-4 (3,154)	10-11 (3,335)
G	Max. vertical wallcut depth	ft-in (mm)	6-4 (1,933)	7-0 (2,139)	7-9 (2,375)
H	Min. front swing radius (no offset)	ft-in (mm)	4-10 (1,488)	4-11 (1,517)	5-1 (1,565)
	Min. front swing radius (fully offset)	ft-in (mm)	3-10 (1,171)	3-11 (1,196)	4-0 (1,236)
I	Boom swing left	degrees	75	75	75
J	Boom swing right	degrees	55	55	55
	Bucket rotation	degrees	201	201	201
	Dipper rotation	degrees	126	126	126
	Bucket tearout (power position)	lb (kN)	4,046 (18)	4,046 (18)	4,046 (18)
	Dipper tearout	lb (kN)	2,270 (10.1)	2,045 (9.1)	1,775 (7.9)
	Slew speed	RPM	7.9	7.9	7.9

EQUIPMENT

SERVICE AND MAINTENANCE

Beacon ready kit	•
500 hours dig end greasing intervals	•
Grease gun & cartridge	+
Toolkit	+

TRACKS AND UNDERCARRIAGE

230 mm short pitch rubber tracks	•
Two-speed tracking	•
Retractable undercarriage	•
Extendable dozer blade	•
Heavy-duty recoiled tracked tensioners	•
Long dozer blade	+
Auto kick-down track motors	•
Auto kick-up	•

OPERATOR STATION

On-board charger	•
LED worklights	+
Full audio visual warning systems	•
Full control isolation	•
12 volt power socket	•
ISO servo controls	•
Static seat	•
Electro-proportional thumb controlled dual flow auxiliary	+
Dual patterned controls (ISO/SAE changeover)	+
Vinyl suspension seats	+
Fire extinguisher	+
Track lever pedals	+

POWER SOURCE

4 power packs	•
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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	•

PROTECTION AND SAFETY

ROPS, TOPS & FOGS certified canopy	•
Internal lockable toolbox	•
Protected boom work light	•
2GO hydraulic isolation	•
Cesar Data Tag (UK ONLY)	•
Disconnect switch	•
Rotating beacon	+
Seat belt engaged green beacon	+
JCB LiveLink	•
Pin pad immobilizer	+
Polycarbonate front screen protection	+
Boom LED worklight guard	+
FOGS guard level I	•
Travel alarm	+

EXTERNAL EQUIPMENT

Charging leads 110 V	•
Charging leads 230 V	•
Standard dipper ft-in (mm)	3-7 (1,100)
Dipper options ft-in (mm)	3-1/4-5 (950/1,344)
Tie down points	•
LED beacon	+
Heavy duty kingpost	•
Exterior mirrors	+
GP & bladed bucket range	+
Mechanical quick hitch	+
Hydraulic quick hitch	+
Thumb ready dipper	+

STANDARD •
OPTIONAL +

LIFT CAPACITIES – 9" RUBBER TRACKS, 5'10" BOOM, 3'7" DIPPER, NO BUCKET.

19C-1E

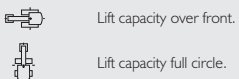
Load Point	4'11"				6'6"				8'2"				9'10"				11'5"				Capacity at max. reach				Distance	
																										
Height	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	Extended	Retracted	Dozer Up	Dozer Down	ft-in (mm)	
ft-in	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	
8-2					1,146*	919	1,190*	967*	731*	703*	643*	663*													8-10 (2,690)	
6-6					1,243*	903	1,291*	1,049*	736*	707*	654*	685*	822*	482	751	787*										9-10 (3,000)
4-11					1,355*	873	1,397*	1,355*	886*	656	826*	864*	848*	485	784	826*										10-9 (3,300)
3-3	1,518*	947	1,845	2,120*	1,419*	897	1,351*	1,424*	1,089*	630	1,016*	1,062*	870*	480	837	877*	604	374	582	740*	604	374	582	740*	11-5 (3,500)	
1-7	1,466	919	1,739	2,173*	1,302	791	1,397	1,790*	994	601	1,000	1,267*	747	460	859	954*	588	363	599	758*	588	363	599	758*	11-5 (3,500)	
0	1,719	1,080	1,752	2,112*	1,247	791	1,320	1,695*	934	588	967	1,216*	566	451	778	965*									11-1 (3,400)	
-1-7	2,023*	1,089	1,988*	2,028*	1,483*	791	1,300	1,596*	1,084*	599	952	1,172*	817*	471	833	864*									10-7 (3,250)	
-3-3	1,545*	1,056	1,554*	1,737*	1,214*	771	1,232*	1,313*	934*	586	928*	974*	639*	546*	712*	736*									9-10 (3,000)	
-4-11	1,128*	1,049	1,058*	1,161*	1,014*	793	908*	943*																	7-2 (2,200)	

NOISE/ VIBRATION

19C-1E

Noise and vibration		Uncertainty		Measurement conditions	
Noise at the operator station (LpA)	68 dB	(KpA)	± 1 dB	ISO 6396: 2008	
Noise emission from the machine (LWA)	87 dB	(KWA)	± 1 dB	ISO 6395: 1988	
Hand arm vibration (m/s ²)					Based upon a test cycle defined in SAE J 1166
Tracking duty	≤ 2.5	(K)	*	EN ISO 5349-2: 2001	
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.



ONE COMPANY, MORE THAN 300 MACHINES.

Your nearest JCB Dealer

Electric Mini Excavator 19C-1E

Transport weight: 4,027 lb Zero emissions. Lithium-ion technology.

JCB North America

2000 Bamford Blvd., Pooler, Georgia, 31322 Tel: (912) 447-2000

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

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