

V O L V O



Volvo Excavators 8.6-10.5 t/ 19,010-23,170 lb 73.2 hp

ECR90

Volvo Construction Equipment

ECR90

The Volvo ECR90 packs 10-tonne (22,046.2 lb) + performance into a compact 9-tonne (19,842 lb) short swing excavator. With more power, faster cycles, 8% larger cab and improved uptime, get ready for maximum results across construction, utilities, road building and more.



Operator control



- Featuring a new 8" high-definition touchscreen interface inherited from larger Volvo Excavators
- Keyless engine start/stop
- Operators can now control all essential machine functions from the display
- Larger right-hand console for improved dozer blade control
- Hydraulic dozer blade lever with integrated high-speed travel and floating mode buttons

Easy to service



- Wide opening hood
- Ground level service access
- Grouped filters
- 19-litres (5.02 gal) less hydraulic oil

Outstanding short swing performance



- Compact design, superior stability, minimal tail swing

Big on performance, big on comfort, big results

The Volvo ECR90 delivers the sort of capabilities more commonly found in a 10-tonne+ machine , wrapped up in a compact 9-tonne short swing excavator. With 28% more engine power, 8% more pump torque, 7% more tractive force, and increased digging and lifting performance, the ECR90 delivers fast cycles, high productivity and outstanding results across general construction, utilities, road building and more. The operator experience has also been taken to new heights with an 8% larger cab, a new 8" HD intuitive display and enhanced controls, while uptime is given a boost thanks to easier servicing and longer service intervals.

More productivity, faster cycle times



- 28% more engine power
- 15% more pump torque
- 7% more tractive force
- 11% more arm digging force
- 13% more bucket force
- 7% more lifting capacity

New levels of comfort



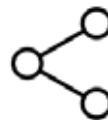
- 18% more air-con performance
- New, wider and height adjustable arm rests
- New tiltable left-hand console for easy entry/exit
- Entry door openable window
- Optional cooling/heating function integrated into seat

8% larger cab



- Space and comfort you'd expect from a 10-tonne (22,046.2 lb)+ machine
- Conveniently located in-cab storage locations
- Cupholder, document holder, phone holder, glove holder
- USB charging sockets

Versatility and customization



- 136 l/min (36 gpm) hydraulic flow for accessories (15% more than previous generation)
- Choice of mono boom or 2-piece boom
- Tiltrotator from the factory
- Range of Volvo Attachments

Work for longer



- Larger 130 litre (34.3 gal) fuel tank capacity (18% increase compared to previous generation)
- Auto engine shutdown (operator sets pre-set shutdown time between 5-60 mins)
- CareTrack telematics with Active Care
- New software architecture for seamless future updates

New options



- New sliding air suspension seat, including 3-point seatbelt
- Side view camera
- White noise alarm
- Additional oil drain line
- Engine block heater
- Electric dozer control on LH joystick

Longer service intervals



- DPF cleaning every 8,000 hours (up from 6,000 compared to the previous generation).
- Hydraulic return filter changes every 1,500 hours (3 times longer than the previous generation)
- 3,000-hour suction filter interval (50% longer than previous generation)
- 6,000-hour long life oil interval (20% longer than previous generation)

Configured your way

- Choose the optimum configuration for your operation
- Choice of mono boom or 2-piece boom
- Tiltrotator from the factory
- With a range of Volvo Attachments the ECR90 can be equipped to take on a wide array of tasks
- With 136 l/min (36 gpm) hydraulic flow for accessories (15% more than previous generation), the machine can now handle the most powerful attachments

More spacious, upgraded cab

- All the space and comfort you'd expect from a 10-tonne (22,046.2 lb) + machine
- 8% larger cab: more legroom and comfort
- New display and controls
- Entry door openable window
- New conveniently located in-cab storage locations: cupholder, document holder, glove compartment and phone holder
- USB sockets to charge smart devices and connect phone to the in-cab display



Outstanding short swing performance

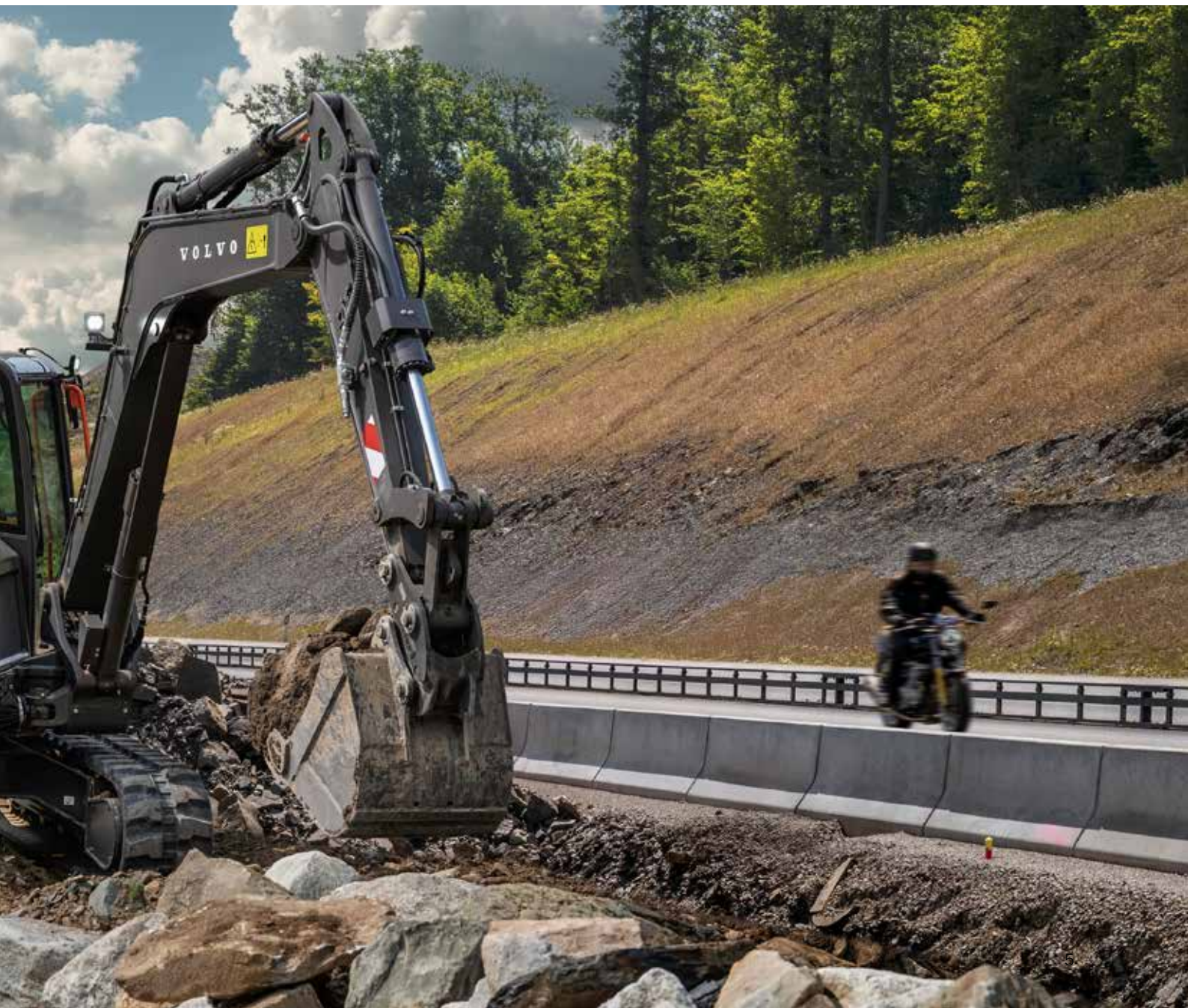
- Compact design, superior stability and minimal tail swing
- Work efficiently in confined spaces
- 28% more engine power
- 15% more pump torque
- 7% more tractive force
- Get ready for fast cycle times and maximum productivity

Dig more, lift more

- More power where it counts to tackle tough jobs with ease
- 11% more arm digging force
- 13% more bucket digging force
- 7% greater lifting capacity
- A machine ready to deliver outstanding results across a range of jobsites

Easy to service

- Servicing has never been easier in the ECR90
- New wide opening hood allowing safe and easy access
- All service check points are located under the wide-opening engine hood and accessed from ground level
- Grouped filters ensure regular maintenance is straightforward, helping to maximize uptime



Volvo ECR90 in detail

Engine

The new engine which provide excellent performance is equipped with a four-cylinder, vertical, electronic controlled high pressure fuel injectors, in-line turbo charger and water cooled diesel engine type. This engine fully meets the demands of the latest Tier 4f (Stage V) emissions regulations.

Model	Brand	D3.3H
Max. power at	rpm (rps)	2 000 (33.3)
Net (ISO 9249/SAEJ1349)	kW (hp)	53.5 (71.7)
Gross (SAE J1995)	kW (hp)	54.6 (73.2)
Max. torque	Nm (ft lbf)	289 (213)
at engine speed	rpm	1,400
No. of cylinders		4
Displacement	lit (in ³)	3.33 (203)
Displacement	m ³ (in ³)	(203)
Bore	mm (in)	94 (3.7)
Stroke	mm (in)	120 (4.72)

Electrical System

Battery	V	12
Battery capacity	Ah	100
Alternator	V/Ah	12/70
Starter motor output	V - kW	12 - 3

Undercarriage

Track shoes		2 x 39
Link pitch	mm (in)	154 (6.06)
Shoe width - steel	mm (in)	450 / 600 (18 / 24)
Shoe width - rubber	mm (in)	450 (17.7)
Bottom rollers		2 x 5
Top rollers		2 x 1

Travel System

Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.

Max. travel speed low	km/h (mph)	2.60 (1.62)
Max. travel speed high	km/h (mph)	5.0 (3.11)
Max. drawbar pull	kN (lbf)	68.3 (15350)
Gradeability	°	35

Swing System

Swing is provided by direct-drive, radial piston motor - maintenance-free type (no reduction gear). An automatic holding brake and anti-rebound valve are standard.

Max. swing speed	rpm	9
Max. swing speed	kN/m (lbf ft)	23.5 (17,333)

Service Refill

Fuel tank	lit (gal.)	130 (34.3)
Hydraulic system, total	lit (gal.)	113 (29.9)
Hydraulic tank	lit (gal.)	60 (15.9)
Engine oil	lit (gal.)	11.9 (3.14)
Engine coolant	lit (gal.)	9.3 (2.46)
Travel reduction unit	lit (gal.)	2 x 1.6 (2 x 0.4)

Sound Level

Interior sound level according to ISO 6396		
L _{PA}	dB	74
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L _{WA}	dB	98

Hydraulic System

Open center, Power Control system providing accurate controllability.

Main pump: Variable-displacement pump

Maximum flow	l/min (gal/min)	190 (50.2)
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Swing pump: Gear pump

Maximum flow	l/min (gal/min)	(50.2)
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Max. pressure

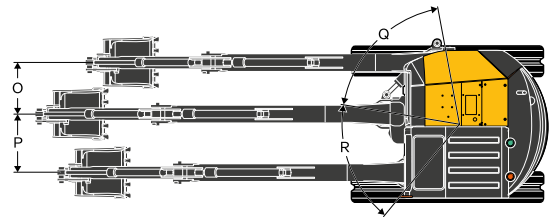
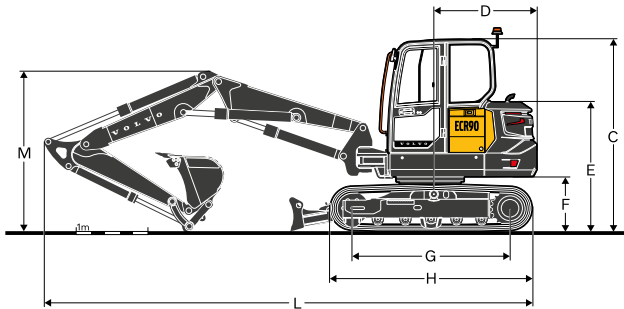
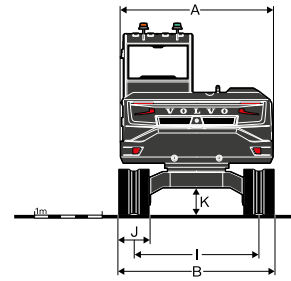
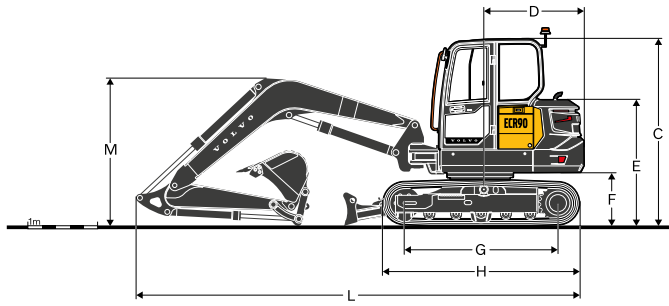
Implement	MPa (psi)	29.4 (4,264)
Travel circuit	MPa (psi)	31.4 (4,554)
Swing circuit	MPa (psi)	24.5 (3,553)
Pilot circuit	MPa (psi)	3.4 (493)

Pilot pump: Gear pump

Maximum system flow	l/min (gal/min)	13 (3.43)
Maximum flow for accessories	l/min (gal/min)	136 (35.9)
Maximum pressure for accessories	MPa (psi)	29.5 (4279)
Maximum flow for 2nd accessory circuit	l/min (gal/min)	28 (7.4)
Maximum pressure for 2nd accessory circuit	MPa (psi)	15 (2176)



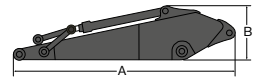
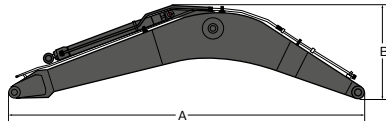
Specifications



DIMENSIONS

Description		Unit	ECR90							
			3.55 m (11'8")				3.85 m (12'8") 2-pieces			
Boom			1.7 m	5'7"	2.1 m	6'11"	1.7 m	5'7"	2.1 m	6'11"
Arm										
A	Overall width of upper structure	mm ft in	2,260	7'5"	2,260	7'5"	2,260	7'5"	2,260	7'5"
B	Overall width	mm ft in	2,300	7'7"	2,300	7'7"	2,300	7'7"	2,300	7'7"
C	Overall height of cab	mm ft in	2,715	8'11"	2,715	8'11"	2,715	8'11"	2,715	8'11"
D	Tail swing radius	mm ft in	1,490	4'11"	1,490	4'11"	1,490	4'11"	1,490	4'11"
E	Overall height of engine hood	mm ft in	1,810	5'11"	1,810	5'11"	1,810	5'11"	1,810	5'11"
F	Counterweight clearance *	mm ft in	760	2'6"	760	2'6"	760	2'6"	760	2'6"
G	Tumbler length	mm ft in	2,200	7'3"	2,200	7'3"	2,200	7'3"	2,200	7'3"
H	Track length	mm ft in	2,830	9'3"	2,830	9'3"	2,830	9'3"	2,830	9'3"
I	Track gauge	mm ft in	1,850	6'1"	1,850	6'1"	1,850	6'1"	1,850	6'1"
J	Shoe width	mm in	450	1'6"	450	1'6"	450	1'6"	450	1'6"
K	Min. ground clearance *	mm in	405	1'4"	405	1'4"	405	1'4"	405	1'4"
L	Overall length	mm ft in	6,570	21'7"	6,620	21'9"	7,010	23'0"	7,060	23'2"
M	Overall height of boom	mm ft in	2,115	6'11"	2,230	7'4"	2,247	7'4"	2,455	8'1"
O	Boom swing distance	mm ft in	760	2'6"	760	2'6"	756	2'6"	756	2'6"
P	Boom swing distance	mm ft in	860	2'10"	863	2'10"	863	2'10"	863	2'10"
Q	Boom swing angle	°	70				70			
R	Boom swing angle	°	60				60			

* Without shoe grouser



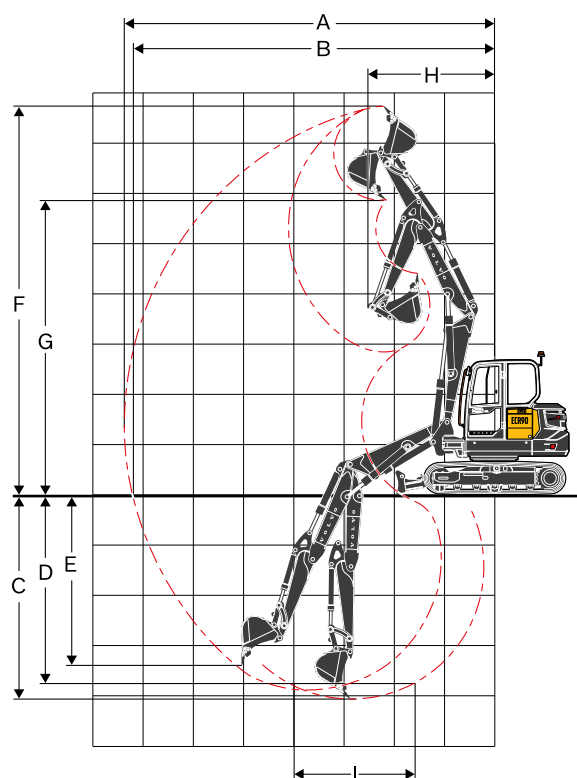
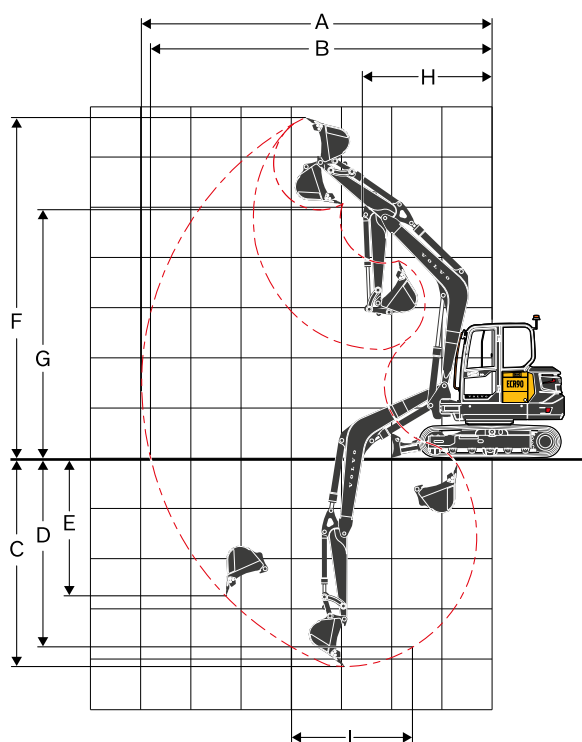
DIMENSIONS

				Boom								Arm			
Description		Unit		3.55 m	11'8"	3.85 m 2-pieces	12'8" 2-pieces	Description		Unit		1.7 m	5'7"	2.1 m	6'11"
A	Length	mm	ft in	3,700	12'2"	4,030	13'3"	A	Length	mm	ft in	2,283	7'6"	2,684	8'10"
B	Height	mm	ft in	1,244	4'1"	983	3'3"	B	Height	mm	ft in	518	1'8"	562	1'10"
Width		mm	in	335	1'1"	340	1'1"	Width		mm	ft in	305	1'0"	305	1'0"
Weight		kg	lb	530	1,170	774	1 710	Weight		kg	lb	280	620	340	750
Includes cylinder, piping and pin, excludes boom cyl. Pin								Includes cylinder, linkage and pin							

DIMENSIONS

Dozer blade		Unit		Standard Dozer	
A	Height	mm	ft in	470	1'7"
	Width	mm	ft in	2,300	7'7"
B	Lifting height	mm	ft in	518	1'8"
C	Digging depth	mm	ft in	433	1'5"

Specifications



WORKING RANGES

Description	Unit		ECR90			
Boom	m (ft in)		3.55 m (11'8")			
Arm	m (ft in)		1.7 m (5'7")		2.1 m (6'11")	
A. Max. digging reach	mm	ft in	6,970	22'10"	7,350	24'1"
B. Max. digging reach on ground	mm	ft in	6,800	22'4"	7,180	23'7"
C. Max. digging depth	mm	ft in	4,130	13'7"	4,530	14'10"
D. Max. digging depth (I=2 440 mm (8'0") level)	mm	ft in	3,750	12'4"	4,200	13'9"
E. Max. vertical wall digging depth	mm	ft in	2,820	9'3"	3,200	10'6"
F. Max. cutting height	mm	ft in	6,790	22'3"	7,050	23'2"
G. Max. dumping height	mm	ft in	4,960	16'3"	5,220	17'2"
H. Min. front swing radius	mm	ft in	2,570	8'5"	2,650	8'8"

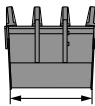
DIGGING FORCES WITH DIRECT FIT BUCKET

Breakout force (bucket)	SAE J1179	kN	lb	57.1	12,840	56.8	12,760
	ISO 6015	kN	lb	65.0	14,610	64.6	14,510
Tearout force (arm)	SAE J1179	kN	lb	43.3	9,730	37.7	8,470
	ISO 6015	kN	lb	44.4	9,990	38.4	8,640
Rotation angle, bucket		°		189			

MACHINE WEIGHTS AND GROUND PRESSURE - ECR90

Description	Shoe width		Operating weight		Ground pressure		Overall width		Operating weight		Ground pressure		Overall width	
	mm	in	kg	lb	kPa	psi	mm	ft in	kg	lb	kPa	psi	mm	ft in
Steel track	450	18	9,100	20,070	41.0	6.0	2,300	7'7"	9,162	20,200	41.2	6.0	2,300	7'7"
	600	24	9,268	20,440	31.3	5.0	2,450	8'0"	9,330	20,570	31.5	5.0	2,450	8'0"
Rubber track	450	18	8,927	19,680	40.0	6.0	2,300	7'7"	8,989	19,820	40.3	6.0	2,300	7'7"
Rubber pad	450	18	9,250	20,400	41.1	6.0	2,300	7'7"	9,312	20,530	41.4	6.0	2,300	7'7"
			3.55 m (11'8") boom, 1.7 m (5'7") arm, 266 L (0.35 yd³) bucket, 1,500 kg (3,310 lb) counterweight						3.55 m (11'8") boom, 2.1 m (6'11") arm, 266 L (0.35 yd³) bucket, 1,500 kg (3,310 lb) counterweight					
Description	Shoe width		Operating weight		Ground pressure		Overall width		Operating weight		Ground pressure		Overall width	
	mm	in	kg	lb	kPa	psi	mm	ft in	kg	lb	kPa	psi	mm	ft in
Steel track	450	18	9,409	20,750	42.4	6.0	2,300	7'7"	9,471	20,880	42.6	6.0	2,300	7'7"
	600	24	9,577	21,120	32.3	5.0	2,450	8'0"	9,639	21,250	32.5	5.0	2,450	8'0"
Rubber track	450	18	9,236	20,370	41.4	6.0	2,300	7'7"	9,298	20,500	41.6	6.0	2,300	7'7"
Rubber pad	450	18	9,559	21,080	42.5	6.0	2,300	7'7"	9,621	21,210	42.8	6.0	2,300	7'7"
			3.85 m (12'8") 2-pieces boom, 1.7 m (5'7") arm, 266 L (0.35 yd³) bucket, 1,500 kg (3,310 lb) counterweight						3.85 m (12'8") 2-pieces boom, 2.1 m (6'11") arm, 266 L (0.35 yd³) bucket, 1,500 kg (3,310 lb) counterweight					

BUCKETS

					
Width		Weight		Capacity	
mm	ft in	kg	lb	l	in³
300	1'0"	118	260	79	4,820
450	1'6"	145	320	143	8,730
600	2'0"	169	370	200	12,200
750	2'6"	188	410	266	16,230
900	2'11"	212	470	333	20,320
1,500	4'11"	241	530	266	16,230

Max. permitted buckets

- Note: 1. Bucket size based on ISO 7451, heaped material with a 1:1 angle of repose.
2. "Max. permitted sizes" are for reference only and are not necessarily available from the factory.
3. Bucket widths are less than bucket's tip radius.

BUCKET SELECTION GUIDE

Description			3.0 m (9'10") Boom, Direct Fit							
			1.7 m (5'7") Arm				2.1 m (6'11") Arm			
			Volume		Weight		Volume		Weight	
	t/m³	lb/yd³	L	gal	kg	lb	L	gal	kg	lb
GP Bucket	1.5	2,528	425	112	325	717	400	106	300	661
	1.8	3,034	375	99	275	606	350	93	250	551

Specifications

LIFTING CAPACITY ECR90

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket. Simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		1.0 m (3.3 ft)		2.0 m (6.6 ft)		3.0 m (9.9 ft)		4.0 m (13.2 ft)		5.0 m (16.5 ft)		5.0 m (19.8 ft)		Max reach		
			Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	
Boom: 3.55 m (11'8") Arm: 1.7 m (5'7") Shoe Rubber: 450 mm (18") CWT: 1,400 kg (3,090 lb) Dozer blade down	5.0 m	kg							*1,540	*1,540					*1,620	*1,620	4.6 m
	16.5 ft	lb							*3,410	*3,410					*3,590	*3,590	14.9 ft
	4.0 m	kg							*1,600	*1,600	*1,560	1,450			*1,580	1,290	5.3 m
	12.3 ft	lb							*3,510	*3,510	*3,440	3,170			*3,490	2,850	17.5 ft
	3.0 m	kg					*2,510	*2,510	*1,920	*1,920	*1,660	1,420			*1,550	1,110	5.8 m
	9.9 ft	lb					*5,470	*5,470	*4,190	*4,190	*3,650	3,110			*3,420	2,460	19.0 ft
	2.0 m	kg					*3,740	2,940	*2,360	1,920	*1,850	1,370	*1,610	1,030	*1,600	1,030	6.0 m
	6.6 ft	lb					*8,120	6,430	*5,160	4,200	*4,060	3,000			*3,520	2,270	19.7 ft
	1.0 m	kg							*2,720	1,830	*2,030	1,330	*1,650	1,010	*1,650	1,010	6.0 m
	3.3 ft	lb					*5,570	*5,570	*5,950	4,010	*4,440	2,900			*3,640	2,220	19.7 ft
	0.0 m	kg					*3,810	2,750	*2,850	1,780	*2,100	1,290			*1,690	1,040	5.8 m
	0.0 ft	lb					*8,590	6,020	*6,230	3,900	*4,600	2,840			*3,740	2,300	19.1 ft
	-1.0 m	kg			*3,570	*3,570	*3,890	2,760	*2,730	1,770	*2,000	1,290			*1,730	1,160	5.4 m
	-3.3 ft	lb			*7,930	*7,930	*8,520	6,040	*5,980	3,880	*4,370	2,820			*3,820	2,560	17.7 ft
	-2.0 m	kg			*4,870	*4,870	*3,240	2,800	*2,310	1,790					*1,740	1,430	4.7 m
	-6.6 ft	lb			*10,630	*10,630	*7,090	6,130	*5,030	3,930					*3,830	3,180	15.4 ft
	-3.0 m	kg					*1,930	*1,930							*1,540	*1,540	3.4 m
	-9.9 ft	lb					*4,140	*4,140							*3,370	*3,370	11.2 ft
Boom: 3.55 m (11'8") Arm: 1.7 m (5'7") Shoe Rubber: 450 mm (18") CWT 1,400 kg (3,090 lb) Dozer blade up	5.0 m	kg							*1,540	*1,540					*1,620	1,580	4.6 m
	16.5 ft	lb							*3,410	*3,410					*3,590	3,530	14.9 ft
	4.0 m	kg							*1,600	*1,600	*1,560	1,370			1,540	1,220	5.3 m
	12.3 ft	lb							*3,510	*3,510	*3,440	3,000			3,410	2,700	17.5 ft
	3.0 m	kg					*2,510	*2,510	*1,920	1,910	*1,660	1,340			1,340	1,050	5.8 m
	9.9 ft	lb					*5,470	*5,470	*4,190	4,190	*3,650	2,940			2,960	2,320	19.0 ft
	2.0 m	kg					3,580	2,750	2,310	1,810	1,650	1,290	1,240	970	1,240	970	6.0 m
	6.6 ft	lb					7,840	6,040	5,060	3,960	3,610	2,840			2,740	2,140	19.7 ft
	1.0 m	kg							2,220	1,720	1,600	1,250	1,220	950	1,220	950	6.0 m
	3.3 ft	lb					*5,570	*5,570	4,860	3,770	3,510	2,730			2,690	2,090	19.7 ft
	0.0 m	kg					3,390	2,580	2,170	1,670	1,570	1,220			1,260	980	5.8 m
	0.0 ft	lb					7,410	5,630	4,750	3,670	3,440	2,670			2,790	2,170	19.1 ft
	-1.0 m	kg			*3,570	*3,570	3,400	2,580	2,160	1,660	1,560	1,210			1,400	1,090	5.4 m
	-3.3 ft	lb			*7,930	*7,930	7,430	5,650	4,720	3,640	3,420	2,650			3,100	2,410	17.7 ft
	-2.0 m	kg			*4,870	*4,870	*3,240	2,620	2,180	1,690					*1,740	1,350	4.7 m
	-6.6 ft	lb			*10,630	*10,630	*7,090	5,740	4,780	3,690					*3,830	2,990	15.4 ft
	-3.0 m	kg					*1,930	*1,930							*1,540	*1,540	3.4 m
	-9.9 ft	lb					*4,140	*4,140							*3,370	*3,370	11.2 ft
Boom: 3.55 m (11'8") Arm: 2.1 m (6'11") Shoe Rubber: 450 mm (18") CWT: 1,400 kg (3,090 lb) Dozer blade down	6.0 m	kg													*1,520	*1,520	4.0 m
	19.8 ft	lb													*3,370	*3,370	12.8 ft
	5.0 m	kg									*1,400	*1,400			*1,330	*1,330	5.1 m
	16.5 ft	lb									*3,110	*3,110			*2,950	*2,950	16.6 ft
	4.0 m	kg									*1,360	*1,360			*1,230	1,120	5.8 m
	12.3 ft	lb									*2,990	*2,990			*2,730	2,490	18.9 ft
	3.0 m	kg							*1,660	*1,660	*1,490	1,420	*1,410	1,040	*1,210	980	6.2 m
	9.9 ft	lb							*3,640	*3,640	*3,270	3,100	*3,120	2,270	*2,680	2,170	20.3 ft
	2.0 m	kg					*3,190	3,000	*2,120	1,920	*1,700	1,360	*1,490	1,020	*1,250	910	6.4 m
	6.6 ft	lb					*6,930	6,570	*4,640	4,210	*3,730	2,980	*3,280	2,220	*2,750	2,020	20.9 ft
	1.0 m	kg					*3,640	2,770	*2,540	1,810	*1,910	1,310	*1,580	990	*1,330	890	6.4 m
	3.3 ft	lb					*8,310	6,070	*5,560	3,970	*4,190	2,860	*3,460	2,160	*2,940	1,970	21.0 ft
	0.0 m	kg					*3,950	2,690	*2,770	1,750	*2,040	1,260	*1,610	970	*1,490	920	6.2 m
	0.0 ft	lb					*8,880	5,890	*6,050	3,820	*4,470	2,770	*3,530	2,120	*3,300	2,030	20.4 ft
	-1.0 m	kg	*2,670	*2,670	*3,090	*3,090	*4,040	2,680	*2,750	1,720	*2,020	1,250			*1,570	1,000	5.8 m
	-3.3 ft	lb	*5,910	*5,910	*6,880	*6,880	*8,840	5,870	*6,020	3,770	*4,430	2,730			*3,470	2,220	19.1 ft
	-2.0 m	kg	*3,990	*3,990	*4,950	*4,950	*3,540	2,720	*2,470	1,730	*1,750	1,260			*1,600	1,200	5.2 m
	-6.6 ft	lb	*8,850	*8,850	*11,020	*11,020	*7,730	5,940	*5,400	3,790	*3,800	2,760			*3,540	2,650	17.0 ft
	-3.0 m	kg			*3,940	*3,940	*2,550	*2,550	*1,690	*1,690					*1,560	*1,560	4.1 m
	-9.9 ft	lb			*8,530	*8,530	*5,550	*5,550	*3,620	*3,620					*3,430	*3,430	13.5 ft

Notes: 1. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 2. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 3. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY ECR90

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket. Simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		1.0 m (3.3 ft)		2.0 m (6.6 ft)		3.0 m (9.9 ft)		4.0 m (13.2 ft)		5.0 m (16.5 ft)		5.0 m (19.8 ft)		Max reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	
Boom: 3.55 m (11'8") Arm: 2.1 m (6'11") Shoe Rubber: 450 mm (18") CWT: 1,400 kg (3,090 lb) Dozer blade up	6.0 m	kg													*1,520	*1,520	4.0 m
	19.8 ft	lb													*3,370	*3,370	12.8 ft
	5.0 m	kg									*1,400	1,370			*1,330	1,330	5.1 m
	16.5 ft	lb									*3,110	3,000			*2,950	*2,950	16.6 ft
	4.0 m	kg									*1,360	*1,360			*1,230	1,060	5.8 m
	12.3 ft	lb									*2,990	*2,990			*2,730	2,350	18.9 ft
	3.0 m	kg							*1,660	*1,660	*1,490	1,340	1,250	980	1,190	930	6.2 m
	9.9 ft	lb							*3,640	*3,640	*3,270	2,930	2,740	2,140	2,630	2,050	20.3 ft
	2.0 m	kg					*3,190	2,810	*2,120	1,810	1,640	1,280	1,230	960	1,110	860	6.4 m
	6.6 ft	lb					*6,930	6,160	*4,640	3,970	3,590	2,810	2,690	2,090	2,460	1,900	20.9 ft
	1.0 m	kg					3,410	2,590	2,200	1,710	1,580	1,230	1,200	930	1,090	840	6.4 m
	3.3 ft	lb					7,460	5,670	4,820	3,740	3,470	2,690	2,630	2,030	2,410	1,850	21.0 ft
	0.0 m	kg					3,330	2,510	2,130	1,640	1,540	1,190	1,180	910	1,120	860	6.2 m
	0.0 ft	lb					7,280	5,500	4,670	3,590	3,370	2,600	2,590	1,990	2,480	1,900	20.4 ft
	-1.0 m	kg	*2,670	*2,670	*3,090	*3,090	3,320	2,510	2,110	1,610	1,520	1,170			1,230	940	5.8 m
	-3.3 ft	lb	*5,910	*5,910	*6,880	*6,880	7,250	5,480	4,610	3,530	3,330	2,560			2,710	2,080	19.1 ft
Boom: 3.55 m (11'8") Arm: 1.7 m (5'7") Shoe Rubber: 450 mm (18") CWT: 1,610 kg (3,550 lb) Dozer blade down	-2.0 m	kg	*3,990	*3,990	*4,950	*4,950	3,350	2,540	2,120	1,620	1,540	1,180			1,460	1,130	5.2 m
	-6.6 ft	lb	*8,850	*8,850	*11,020	*11,020	7,330	5,540	4,640	3,560	3,370	2,590			3,230	2,490	17.0 ft
	-3.0 m	kg					*3,940	*3,940	*2,550	*2,550	*1,690	*1,690			*1,560	*1,560	4.1 m
	-9.9 ft	lb					*8,530	*8,530	*5,550	*5,550	*3,620	*3,620			*3,430	*3,430	13.5 ft
	5.0 m	kg							*1,540	*1,540					*1,620	*1,620	4.6 m
	16.5 ft	lb							*3,410	*3,410					*3,590	*3,590	14.9 ft
	4.0 m	kg							*1,600	*1,600	*1,560	1,530			*1,580	1,360	5.3 m
	12.3 ft	lb							*3,510	*3,510	*3,440	3,350			*3,490	3,030	17.5 ft
	3.0 m	kg					*2,510	*2,510	*1,920	*1,920	*1,660	1,500			*1,550	1,180	5.8 m
	9.9 ft	lb					*5,470	*5,470	*4,190	*4,190	*3,650	3,290			*3,420	2,610	19.0 ft
	2.0 m	kg					*3,740	3,110	*2,360	2,030	*1,850	1,460	*1,610	1,100	*1,600	1,090	6.0 m
	6.6 ft	lb					*8,120	6,810	*5,160	4,450	*4,060	3,190			*3,520	2,420	19.7 ft
	1.0 m	kg							*2,720	1,940	*2,030	1,410	*1,650	1,080	*1,650	1,070	6.0 m
	3.3 ft	lb					*5,570	*5,570	*5,950	4,260	*4,440	3,090			*3,640	2,370	19.7 ft
	0.0 m	kg					*3,810	2,930	*2,850	1,900	*2,100	1,380			*1,690	1,110	5.8 m
	0.0 ft	lb					*8,590	6,400	*6,230	4,150	*4,600	3,020			*3,740	2,460	19.1 ft
Boom: 3.55 m (11'8") Arm: 1.7 m (5'7") Shoe Rubber: 450 mm (18") CWT: 1,610 kg (3,550 lb) Dozer blade up	-1.0 m	kg			*3,570	*3,570	*3,890	2,940	*2,730	1,890	*2,000	1,370			*1,730	1,230	5.4 m
	-3.3 ft	lb			*7,930	*7,930	*8,520	6,420	*5,980	4,130	*4,370	3,010			*3,820	2,730	17.7 ft
	-2.0 m	kg			*4,870	*4,870	*3,240	2,980	*2,310	1,910					*1,740	1,530	4.7 m
	-6.6 ft	lb			*10,630	*10,630	*7,090	6,510	*5,030	4,180					*3,830	3,380	15.4 ft
	-3.0 m	kg					*1,930	*1,930							*1,540	*1,540	3.4 m
	-9.9 ft	lb					*4,140	*4,140							*3,370	*3,370	11.2 ft
	5.0 m	kg							*1,540	*1,540					*1,620	*1,620	4.6 m
	16.5 ft	lb							*3,410	*3,410					*3,590	*3,590	14.9 ft
	4.0 m	kg							*1,600	*1,600	*1,560	1,450			*1,580	1,290	5.3 m
	12.3 ft	lb							*3,510	*3,510	*3,440	3,180			*3,490	2,870	17.5 ft
	3.0 m	kg					*2,510	*2,510	*1,920	*1,920	*1,660	1,420			1,410	1,120	5.8 m
	9.9 ft	lb					*5,470	*5,470	*4,190	*4,190	*3,650	3,120			3,120	2,470	19.0 ft
	2.0 m	kg					*3,740	2,920	*2,360	1,920	1,740	1,380	1,320	1,030	1,310	1,030	6.0 m
	6.6 ft	lb					*8,120	6,400	*5,160	4,200	3,810	3,020			2,900	2,290	19.7 ft
	1.0 m	kg							2,340	1,830	1,690	1,330	1,300	1,020	1,290	1,010	6.0 m
	3.3 ft	lb					*5,570	*5,570	5,120	4,010	3,710	2,920			2,850	2,240	19.7 ft
	0.0 m	kg					3,580		2,290	1,780	1,660	1,300			1,340	1,050	5.8 m
	0.0 ft	lb					7,820	5,990	5,010	3,910	3,640	2,850			2,960	2,320	19.1 ft
	-1.0 m	kg			*3,570	*3,570	3,590	2,750	2,280	1,770	1,650	1,290			1,490	1,160	5.4 m
	-3.3 ft	lb			*7,930	*7,930	7,840	6,010	4,990	3,880	3,620	2,830			3,280	2,570	17.7 ft
	-2.0 m	kg			*4,870	*4,870	*3,240	2,790	2,300	1,800					*1,740	1,440	4.7 m
	-6.6 ft	lb			*10,630	*10,630	*7,090	6,100	*5,030	3,940					*3,830	3,190	15.4 ft
	-3.0 m	kg					*1,930	*1,930							*1,540	*1,540	3.4 m
	-9.9 ft	lb					*4,140	*4,140							*3,370	*3,370	11.2 ft

Notes: 1. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 2. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 3. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Specifications

LIFTING CAPACITY ECR90

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket. Simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		1.0 m (3.3 ft)		2.0 m (6.6 ft)		3.0 m (9.9 ft)		4.0 m (13.2 ft)		5.0 m (16.5 ft)		5.0 m (19.8 ft)		Max reach		
			Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	Along UC	Accross UC	
Boom: 3.55 m (11'8") Arm: 2.1 m (6'11") Shoe Rubber: 450 mm (18") CWT: 1,610 kg (3,550 lb) Dozer blade down	6.0 m	kg													*1,520	*1,520	4.0 m
	19.8 ft	lb													*3,370	*3,370	12.8 ft
	5.0 m	kg									*1,400	*1,400			*1,330	*1,330	5.1 m
	16.5 ft	lb									*3,110	*3,110			*2,950	*2,950	16.6 ft
	4.0 m	kg									*1,360	*1,360			*1,230	*1,190	5.8 m
	12.3 ft	lb									*2,990	*2,990			*2,730	2,650	18.9 ft
	3.0 m	kg							*1,660	*1,660	*1,490	*1,490	*1,410	1,110	*1,210	1,050	6.2 m
	9.9 ft	lb							*3,640	*3,640	*3,270	*3,270	*3,120	2,420	*2,680	2,320	20.3 ft
	2.0 m	kg					*3,190	3,170	*2,120	2,040	*1,700	1,450	*1,490	1,080	*1,250	980	6.4 m
	6.6 ft	lb					*6,930	*6,930	*4,640	4,460	*3,730	3,170	*3,280	2,370	*2,750	2,160	20.9 ft
	1.0 m	kg					*3,640	2,950	*2,540	1,930	*1,910	1,390	*1,580	1,060	*1,330	960	6.4 m
	3.3 ft	lb					*8,310	6,440	*5,560	4,220	*4,190	3,050	*3,460	2,310	*2,940	2,110	21.0 ft
	0.0 m	kg					*3,950	2,870	*2,770	1,860	*2,040	1,350	*1,610	1,040	*1,490	980	6.2 m
	0.0 ft	lb					*8,880	6,270	*6,050	4,070	*4,470	2,950	*3,530	2,270	*3,300	2,170	20.4 ft
	-1.0 m	kg	*2,670	*2,670	*3,090	*3,090	*4,040	2,860	*2,750	1,840	*2,020	1,330			*1,570	1,070	5.8 m
	-3.3 ft	lb	*5,910	*5,910	*6,880	*6,880	*8,840	6,240	*6,020	4,020	*4,430	2,920			*3,470	2,370	19.1 ft
	-2.0 m	kg	*3,990	*3,990	*4,950	*4,950	*3,540	2,890	*2,470	1,850	*1,750	1,340			*1,600	1,280	5.2 m
	-6.6 ft	lb	*8,850	*8,850	*11,020	*11,020	*7,730	6,310	*5,400	4,040	*3,800	2,950			*3,540	2,830	17.0 ft
Boom: 3.55 m (11'8") Arm: 2.1 m (6'11") Shoe Rubber: 450 mm (18") CWT: 1,610 kg (3,550 lb) Dozer blade up	-3.0 m	kg					*3,940	*3,940	*2,550	*2,550	*1,690	*1,690			*1,560	*1,560	4.1 m
	-9.9 ft	lb					*8,530	*8,530	*5,550	*5,550	*3,620	*3,620			*3,430	*3,430	13.5 ft
	6.0 m	kg													*1,520	*1,520	4.0 m
	19.8 ft	lb													*3,370	*3,370	12.8 ft
	5.0 m	kg									*1,400	*1,400			*1,330	*1,330	5.1 m
	16.5 ft	lb									*3,110	*3,110			*2,950	*2,950	16.6 ft
	4.0 m	kg									*1,360	*1,360			*1,230	1,130	5.8 m
	12.3 ft	lb									*2,990	*2,990			*2,730	2,500	18.9 ft
	3.0 m	kg							*1,660	*1,660	*1,490	1,420	1,330	1,050	*1,210	990	6.2 m
	9.9 ft	lb							*3,640	*3,640	*3,270	3,120	2,900	2,290	*2,680	2,190	20.3 ft
	2.0 m	kg					*3,190	2,980	*2,120	1,920	*1,700	1,370	1,300	1,020	1,180	920	6.4 m
	6.6 ft	lb					*6,930	6,520	*4,640	4,210	*3,730	3,000	2,850	2,240	2,600	2,030	20.9 ft
	1.0 m	kg					3,600	2,760	2,330	1,820	1,670	1,310	1,270	990	1,160	900	6.4 m
	3.3 ft	lb					7,870	6,040	5,090	3,980	3,660	2,870	2,790	2,180	2,560	1,990	21.0 ft
	0.0 m	kg					3,520	2,680	2,260	1,750	1,630	1,270	1,250	970	1,190	930	6.2 m
	0.0 ft	lb					7,690	5,860	4,940	3,830	3,570	2,780	2,750	2,140	2,630	2,050	20.4 ft
	-1.0 m	kg	*2,670	*2,670	*3,090	*3,090	3,510	2,670	2,230	1,720	1,610	1,250			1,300	1,010	5.8 m
	-3.3 ft	lb	*5,910	*5,910	*6,880	*6,880	7,660	5,840	4,880	3,770	3,530	2,740			2,880	2,230	19.1 ft
	-2.0 m	kg	*3,990	*3,990	*4,950	*4,950	*3,540	2,700	2,240	1,740	1,630	1,270			1,550	1,210	5.2 m
	-6.6 ft	lb	*8,850	*8,850	*11,020	*11,020	*7,730	5,910	4,910	3,800	3,560	2,780			3,430	2,670	17.0 ft
	-3.0 m	kg					*3,940	*3,940	*2,550	*2,550	*1,690	*1,690			*1,560	*1,560	4.1 m
	-9.9 ft	lb					*8,530	*8,530	*5,550	*5,550	*3,620	*3,620			*3,430	*3,430	13.5 ft

Notes: 1. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 2. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 3. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Equipment

STANDARD AND OPTIONAL EQUIPMENT	
• = Standard / o = Optional	
Engine	
Low-emission Volvo Tier4f diesel engine	•
Block heater: 120 V, 240 V	o
Standard cooling system	•
Two-stage air filter	•
Electric engine shutoff	•
Fuel filter and water separator	•
Fuel filler pump: 30 l/min (7.93 gal/min), with automatic shut-off	•
Alternator, 70 A	•
Electric/Electronic control system	
Safe engine start function	•
Automatic idling system	•
LED working lights;	•
Cab-mounted 2 (front), Boom-mounted 1	•
Extra working lights;	o
Cab-mounted 1 (rear)	o
Master electrical disconnect switch	•
Caretrack	o
Air compressor	o
Rotating warning beacon	o
Rear view camera	•
Side view camera	o
Travel alarm	o
Travel alarm white noise	o
Battery, 12 V / 100 Ah	•
Start motor, XX V / XX kW	•
Hydraulic system	
Automatic two speed travel motors	•
Hose rupture valve for boom	•
Overload warning device	•
Cylinder cushioning	•
Hydraulic fluid mineral 46	•
Hydraulic oil, ISO VG 32, 68	o
Hydraulic oil, biodegradable 46	o
Hydraulic oil, longlife oil 32, 46, 68	o
Hammer & shear hydraulic piping	•
Hydraulic piping:	o
Slope & rotator	o
Grapple	o
Quick coupler	o
Pilot control change	o

STANDARD AND OPTIONAL EQUIPMENT	
• = Standard / o = Optional	
Cab and interior	
ROPS cab	•
Cab with caretrack	o
Canopy	o
Cab mounted FOG (Falling Object Guard)	o
FOPS (Falling Object Protection Structure)	o
Safety net	o
Adjustable fabric operator seat with suspension	•
Adjustable PVC operator seat with suspension	o
Delux seat (Fabric, PVC)	o
Seat belt, 2 inch retractable	•
Seat belt, 3 inch retractable	o
Control joystick	•
Heater and air-conditioner	•
AM/FM stereo	•
AM/FM stereo with CD player and USB input	o
Master key	•
Hour meter (non analog)	•
Mechanical hour meter	o
Frame	
Rearview mirror	•
1,400 kg (3,090 lb) counterweight	•
1,500 kg (3,310 lb) counterweight	o
Under cover	•
Dozer blade	•
Dozer blade with floating function	o
Undercarriage	
Greased and sealed track link	•
450 mm (18") rubber track	•
450 mm (18"), 600 mm (24") steel track	o
450 mm (18") rubber pad	o
Digging equipment	
Boom: 3.55 m (11'8"), Arm: 1.7 m (5'7")	•
Boom: 3.85 m (12'8") 2-pieces, Arm: 2.1 m (6'11")	o
Linkage with lifting eye	•
Linkage	o
Service	
Tool kit-daily maintenance	•
Tool kit, full scale	o
Spare parts	o

V O L V O