

V O L V O



Volvo Excavators 8.6-10.0 t / 19,010-22,050 lb 58 hp

# ECR88D

Volvo Construction Equipment

# ECR88D



## Enhanced hydraulics

The hydraulic system is perfectly matched to the engine and components for fast response and smooth operation.



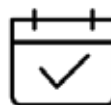
## Stability

A heavy counterweight and a strong undercarriage deliver superior stability and the ability to lift bigger loads.



## Service access

All service check points are accessed from ground level. Grouped filters make regular maintenance easy.



## Single pivot pin

Volvo uses a single pivot design that achieves maximum support between main frame and front equipment. This concept increases, stability, durability and lifetime of the components

# Built to get the job done



## Optional hydraulics

For increased versatility, auxiliary hydraulic systems are available to enable the operation of a wide range of attachments.



## MATRIS and VCADS Pro

The MATRIS tool monitors machine usage and operation. VCADS Pro analysis and programming software provides fast diagnostics.



## ECO mode

The ECO mode provides optimal working performance together with fuel saving.



## Optional dozer floating

The optional dozer blade float function 'floats' the dozer blade over the ground for improved leveling control and fuel efficiency.



## Undercarriage

Durable and strong X-shape undercarriage ensures superior stability and increases machine lifetime.



## Auto engine shutdown

The auto engine shutdown provides lower fuel costs, less noise, much lower maintenance costs and a greater resale value.



## Auto idle

Engine speed is reduced to idle when the controls are inactive for more than five seconds or the left-hand console is raised – reducing fuel consumption and noise.



## Volvo engine

Tier 4f compliant Volvo Engine delivers superior performance with low fuel consumption.



## Volvo Cab

Volvo's purpose designed cab offers excellent allround viability, enhanced by the slim cab pillars and large windows.

# Volvo ECR88D in detail

Engine		
The new Tier 4f / Stage V compliant diesel engine is equipped with in-line, turbocharged and water cooled.		
Model	Volvo	D2.6H
Max. power at	r/min (r/s)	2,000 (33.3)
Net (ISO 9249/SAEJ1349)	kW (hp)	41 (55)
Gross (SAE J1995)	kW (hp)	42.4 (57)
Max. torque	Nm (ft lbf)	220 (162)
at engine speed	r/min	1,300
No. of cylinders		4
Displacement	l (in <sup>3</sup> )	2.62 (160)
Bore	mm (in)	87 (3.4)
Stroke	mm (in)	110 (4.3)

Electrical System		
Voltage	V	12
Batteries	V	1 x 12
Battery capacity	Ah	100
Alternator	V/Ah	12/70
Starter motor output	V - kW	12 - 2.5

Undercarriage		
Robust X-shaped frame with sealed and greased track chains.		
Track shoes		2 x 39
Link pitch	mm (in)	154 (6.1)
Shoe width - steel	mm (in)	450 / 600 (17.7 / 23.6)
Shoe width - rubber	mm (in)	450 (17.7)
Bottom rollers		2 x 5
Top rollers		2 x 1

Cab		
Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1.430 t CO <sub>2</sub> -eq		

Sound Level		
Sound level in cab according to ISO 6396		
L <sub>pA</sub>	dB	74
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
L <sub>WA</sub>	dB	98

Hydraulic System		
Open-center, negative hydraulic system providing accurate controllability		
<b>Main pump: Variable-displacement pump</b>		
Maximum flow	l/min (gal/min)	2 x 68 + 54 (2 x 18 + 14)
<b>Pilot pump: Gear pump</b>		
Maximum flow	l/min (gal/min)	13 (3.4)
<b>Relief valve setting pressure</b>		
Implement	MPa (psi)	29.4 (4,264)
Travel circuit	MPa (psi)	29.4 (4,264)
Swing circuit	MPa (psi)	24.5 (3,553)
Pilot circuit	MPa (psi)	3.4 (493)

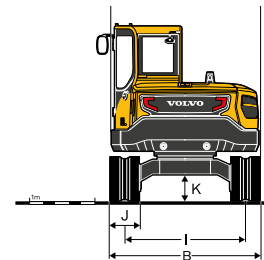
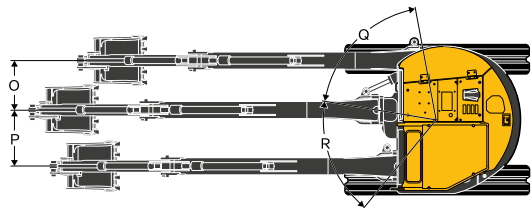
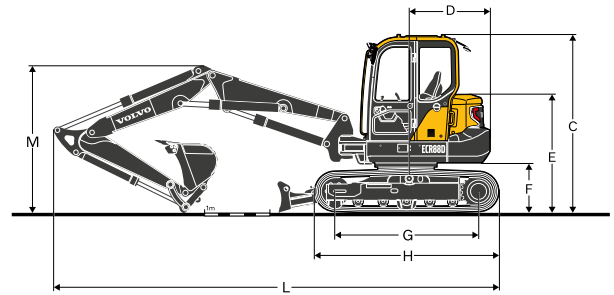
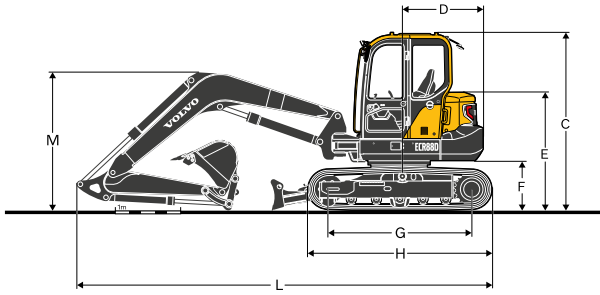
Swing system		
Direct drive swing with radial piston motor—maintenance free and automatic holding brake anti-rebound valve.		
Max. swing speed	r/min	8.3
Max. swing torque	kNm (ft lbf)	22.9 (16,890)

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.		
Travel speed low	km/h (mi/h)	2.6 (1.6)
Travel speed high	km/h (mi/h)	5.2 (3.2)
Max. drawbar pull	kN (lbf)	65 (14,613)
Gradeability	°	35

Service Refill		
Fuel tank	l (gal)	110 (29)
Hydraulic system, total	l (gal)	140 (37)
Hydraulic tank	l (gal)	84 (22)
Engine oil	l (gal)	10.2 (2.7)
Engine coolant	l (gal)	9.3 (2.5)
Travel reduction unit	l (gal)	2 x 1.6 (2 x 0.4)

	Width		Weight		Capacity	
	mm	in	kg	lb	l	cu.in
Direct bucket	300	12	111	250	79	4,820
	450	18	139	310	143	8,730
	600	24	162	360	200	12,200
	750	30	182	400	266	16,230
	900	35	205	450	333	20,320
Quick coupler bucket	450	18	132	290	143	8,730
	600	24	156	340	200	12,200
	700	28	171	380	244	14,890
	850	33	191	420	310	18,920

# Specifications



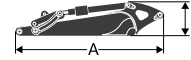
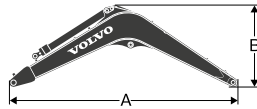
## DIMENSIONS

### Machine

Boom	m	ft in	3.55	11'8"	3.55	11'8"
Arm	m	ft in	1.7	5'7"	2.1	6'11"
A Overall width of upper structure	mm	ft in	2,260	7'5"	2,260	7'5"
B Overall width	mm	ft in	2,300 / 2,450	7'7" / 8'0"	2,300 / 2,450	7'7" / 8'0"
C Overall height of cab	mm	ft in	2,715	8'11"	2,715	8'11"
D Tail swing radius	mm	ft in	1,290	4'3"	1,290	4'3"
E Overall height of engine hood	mm	ft in	1,810	5'11"	1,810	5'11"
F Counterweight clearance *	mm	ft in	760	2'6"	760	2'6"
G Tumbler length	mm	ft in	2,200	7'3"	2,200	7'3"
H Track length	mm	ft in	2,830	9'3"	2,830	9'3"
I Track gauge	mm	ft in	1,850	6'1"	1,850	6'1"
J Shoe width	mm	ft in	450 / 600	1'6" / 1'12"	450 / 600	1'6" / 1'12"
K Min. ground clearance *	mm	ft in	405	1'4"	405	1'4"
L Overall length	mm	ft in	6,370	20'11"	6,420	21'1"
M Overall height of boom	mm	ft in	2,115	6'11"	2,230	7'4"
O Boom swing distance	mm	ft in	760	2'6"	760	2'6"
P Boom swing distance	mm	ft in	860	2'10"	860	2'10"
Q Boom swing angle		°		70		70
R Boom swing angle		°		60		60

\* Without shoe grouser

# Specifications



## Boom and Arm

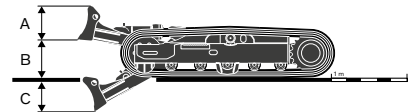
				Boom		Arm			
		m	ft in	3.55	11'8"	1.7	5'7"	2.1	6'11"
A	Length	mm	ft in	3,700	12'2"	2,283	7'6"	2,684	8'10"
B	Height	mm	ft in	1,244	4'1"	518	1'8"	562	1'10"
	Width	mm	ft in	335	1'1"	305	1'0"	305	1'0"
	Weight	kg	lb	530	1,170	280	620	340	750

Boom: Includes cylinder, piping and pin, excludes boom cyl. Pin.

Arm: Includes cylinder, linkage and pin.

## Dozer blade

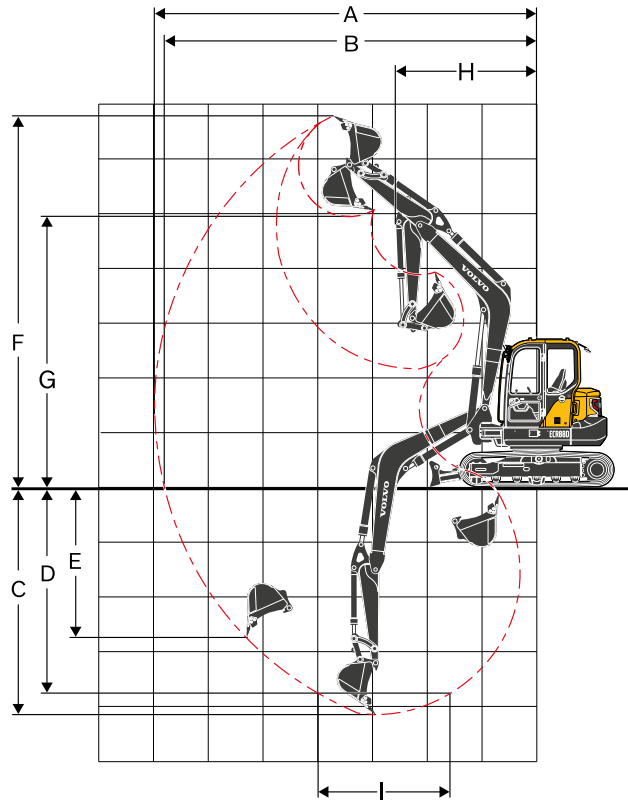
A	Height	mm	ft in	470	1'7"
	Width	mm	ft in	2,300	7'7"
B	Lifting height	mm	ft in	518	1'8"
C	Digging depth	mm	ft in	433	1'5"



## MACHINE WEIGHTS AND GROUND PRESSURE

	Shoe width		Operating weight		Ground pressure	
	mm	in	kg	lb	kPa	psi
<b>Mono boom 3.55 m 11'8", Arm 1.7 m 5'7", Bucket 188 kg (266 l) 410 lb, Counterweight 1 400 / 1 610 kg 3,086 / 3,549 lb</b>						
Steel track	450	18	8,939 / 9,149	19,710 / 20,170	40.2 / 41.1	5.8 / 6.0
	600	24	9,108 / 9,318	20,080 / 20,543	30.7 / 31.4	4.45 / 4.55
Rubber track	450	18	8,752 / 8,962	19,300 / 19,758	39.4 / 40.3	5.7 / 5.9
Rubber pad	450	18	8,988 / 9,198	19,820 / 20,278	40.2 / 41.2	5.8 / 6.0
<b>Mono boom 3.55 m 11'8", Arm 2.1 m 6'11", Bucket 188 kg (266 l) 410 lb, Counterweight 1 400 / 1 610 kg 3,086 / 3,549 lb</b>						
Steel track	450	18	8,997 / 9,207	19,830 / 20,298	40.5 / 41.4	5.9 / 6.0
	600	24	9,166 / 9,376	20,210 / 20,671	30.7 / 31.6	4.5 / 4.6
Rubber track	450	18	8,810 / 9,020	19,420 / 19,886	39.6 / 40.6	5.7 / 5.9
Rubber pad	450	18	9,046 / 9,256	19,940 / 20,406	40.5 / 41.4	5.9 / 6.0





### WORKING RANGES

Description	Unit					
	m	ft in				
<b>Boom</b>			<b>3.55</b>	<b>11'8"</b>	<b>3.55</b>	<b>11'8"</b>
<b>Arm</b>			<b>1.7</b>	<b>5'7"</b>	<b>2.1</b>	<b>6'11"</b>
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 (l=2.44m / 8' 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	2,560	8'5"	2,640	8'8"

### DIGGING FORCES WITH DIRECT FIT BUCKET

Breakout force (bucket)	SAE J1179	kN	lb	50.7	11,400	50.4	11,330
	ISO 6015	kN	lb	57.2	12,860	56.8	12,770
Tearout force (arm)	SAE J1179	kN	lb	38.9	8,740	33.8	7,600
	ISO 6015	kN	lb	39.8	8,950	34.4	7,730
Rotation angle, bucket			°	190		190	

# Specifications

## LIFTING CAPACITY ECR88D

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 point		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		6.0, 19.8 ft		Max. reach			
	m	ft	kg	lb	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Max.	
					Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Max.	
Boom 3.55 m, 11'8" Arm 1.7 m, 5'7" Shoe Rubber 450 mm, 1'6" CWT 1,400 kg / 3,086 lb Dozer blade down	5.0		kg							*1,540	*1,540					*1,620	*1,620	4.6 m
		16.5		lb						*3,395	*3,395					*3,571	*3,571	14.9 ft
	4.0		kg							*1,600	*1,600	*1,560	1,450			*1,580	1,290	5.3 m
		13.2		lb						*3,527	*3,527	*3,439	*3,197			*3,483	*2,844	17.5 ft
	3.0		kg					*2,510	*2,510	*1,920	*1,920	*1,660	1,420			*1,550	1,110	5.8 m
		9.9		lb				*5,534	*5,534	*4,233	*4,233	*3,660	*3,131			*3,417	*2,447	19.0 ft
	2.0		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		lb				*8,245	*6,482	*5,203	*4,233	*4,079	*3,020	*3,549	*2,271	*3,527	*2,271	19.7 ft
	1.0		kg						*2,720	1,830	*2,030	1,330	*1,650	1,010	*1,650	1,010	6.0 m	
		3.3		lb					*5,997	*4,034	*4,475	*2,932	*3,638	*2,227	*3,638	*2,227	19.7 ft	
	0.0		kg					*3,810	2,750	*2,850	1,780	*2,100	1,290			*1,690	1,040	5.8 m
		0.0		lb				*8,400	*6,063	*6,283	*3,924	*4,630	*2,844			*3,726	*2,293	19.1 ft
	-1.0		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		lb		*7,870	*7,870	*8,576	*6,085	*6,019	*3,902	*4,409	*2,844			*3,814	*2,557	17.7 ft
	-2.0		kg			*4,870	*4,870	*3,240	2,800	*2,310	1,790					*1,740	1,430	4.7 m
	-6.6		lb		*10,736	*10,736	*7,143	*6,173	*5,093	*3,946					*3,836	*3,153	15.4 ft	
-3.0		kg					*1,930	*1,930							*1,540	*1,540	3.4 m	
	-9.9		lb				*4,255	*4,255							*3,395	*3,395	11.2 ft	
Boom 3.55 m, 11'8" Arm 1.7 m, 5'7" Shoe Rubber 450 mm, 1'6" CWT 1,400 kg / 3,086 lb Dozer blade up	5.0		kg							*1,540	*1,540					*1,620	1,580	4.6 m
		16.5		lb						*3,395	*3,395					*3,571	*3,483	14.9 ft
	4.0		kg							*1,600	*1,600	*1,560	1,370			1,540	1,220	5.3 m
		13.2		lb						*3,527	*3,527	*3,439	*3,020			*3,395	*2,690	17.5 ft
	3.0		kg					*2,510	*2,510	*1,920	1,910	*1,660	1,340			1,340	1,050	5.8 m
		9.9		lb				*5,534	*5,534	*4,233	*4,211	*3,660	*2,954			*2,954	*2,315	19.0 ft
	2.0		kg					3,580	2,750	2,310	1,810	1,650	1,290	1,240	970	1,240	970	6.0 m
		6.6		lb				*7,893	*6,063	*5,093	*3,990	*3,638	*2,844	*2,734	*2,138	*2,734	*2,138	19.7 ft
	1.0		kg						2,220	1,720	1,600	1,250	1,220	950	1,220	950	6.0 m	
		3.3		lb					*4,894	*3,792	*3,527	*2,756	*2,690	*2,094	*2,690	*2,094	19.7 ft	
	0.0		kg					3,390	2,580	2,170	1,670	1,570	1,220			1,260	980	5.8 m
		0.0		lb				*7,474	*5,688	*4,784	*3,682	*3,461	*2,690			*2,778	*2,161	19.1 ft
	-1.0		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		lb		*7,870	*7,870	*7,496	*5,688	*4,762	*3,660	*3,439	*2,668			*3,086	*2,403	17.7 ft
	-2.0		kg			*4,870	*4,870	*3,240	2,620	2,180	1,690					*1,740	1,350	4.7 m
	-6.6		lb		*10,736	*10,736	*7,143	*5,776	*4,806	*3,726					*3,836	*2,976	15.4 ft	
-3.0		kg					*1,930	*1,930							*1,540	*1,540	3.4 m	
	-9.9		lb				*4,255	*4,255							*3,395	*3,395	11.2 ft	
Boom 3.55 m, 11'8" Arm 2.1 m, 6'11" Shoe Rubber 450 mm, 1'6" CWT 1,400 kg / 3,086 lb Dozer blade down	6.0		kg													*1,520	*1,520	4.0 m
		19.8		lb												*3,351	*3,351	12.8 ft
	5.0		kg									*1,400	*1,400			*1,330	*1,330	5.1 m
		16.5		lb								*3,086	*3,086			*2,932	*2,932	16.6 ft
	4.0		kg									*1,360	*1,360			*1,230	1,120	5.8 m
		13.2		lb								*2,998	*2,998			*2,712	*2,469	18.9 ft
	3.0		kg							*1,660	*1,660	*1,490	1,420	*1,410	1,040	*1,210	980	6.2 m
		9.9		lb						*3,660	*3,660	*3,285	*3,131	*3,109	*2,293	*2,668	*2,161	20.3 ft
	2.0		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		lb				*7,033	*6,614	*4,674	*4,233	*3,748	*2,998	*3,285	*2,249	*2,756	*2,006	20.9 ft
	1.0		kg					*3,640	2,770	*2,540	1,810	*1,910	1,310	*1,580	990	*1,330	890	6.4 m
		3.3		lb				*8,025	*6,107	*5,600	*3,990	*4,211	*2,888	*3,483	*2,183	*2,932	*1,962	21.0 ft
	0.0		kg					*3,950	2,690	*2,770	1,750	*2,040	1,260	*1,610	970	*1,490	920	6.2 m
		0.0		lb				*8,708	*5,930	*6,107	*3,858	*4,497	*2,778	*3,549	*2,138	*3,285	*2,028	20.4 ft
	-1.0		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		lb	*5,886	*5,886	*6,812	*6,812	*8,907	*5,908	*6,063	*3,792	*4,453	*2,756		*3,461	*2,205	19.1 ft	
-2.0		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		lb	*8,796	*8,796	*10,913	*10,913	*7,804	*5,997	*5,445	*3,814	*3,858	*2,778		*3,527	*2,646	17.0 ft	
-3.0		kg					*3,940	*3,940	*2,550	*2,550	*1,690	*1,690			*1,560	*1,560	4.1 m	
	-9.9		lb				*8,686	*8,686	*5,622	*5,622	*3,726	*3,726			*3,439	*3,439	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 ECR88D**

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 point		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		6.0, 19.8 ft		Max. reach												
	m	ft	kg	lb	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Max.										
					Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Max.										
Boom 3.55 m, 11'8" Arm 2.1 m, 6'11" Shoe Rubber 450 mm, 1'6" CWT 1,400 kg / 3,086 lb Dozer blade up	6.0																*1,520	*1,520	4.0 m								
		19.8	kg	lb														*3,351	*3,351	12.8 ft							
	5.0										*1,400	1,370						*1,330	1,330	5.1 m							
		16.5	kg	lb								*3,086	*3,020						*2,932	*2,932	16.6 ft						
	4.0											*1,360	*1,360						*1,230	1,060	5.8 m						
		13.2	kg	lb									*2,998	*2,998						*2,712	*2,337	18.9 ft					
	3.0									*1,660	*1,660	*1,490	1,340	1,250	980	1,190	930					6.2 m					
		9.9	kg	lb							*3,660	*3,660	*3,285	*2,954	*2,756	*2,161	*2,623	*2,050					20.3 ft				
	2.0						*3,190	2,810	*2,120	1,810	1,640	1,280	1,230	960	1,110	860							6.4 m				
		6.6	kg	lb					*7,033	*6,195	*4,674	*3,990	*3,616	*2,822	*2,712	*2,116	*2,447	*1,896					20.9 ft				
	1.0								3,410	2,590	2,200	1,710	1,580	1,230	1,200	930	1,090	840					6.4 m				
		3.3	kg	lb							*7,518	*5,710	*4,850	*3,770	*3,483	*2,712	*2,646	*2,050	*2,403	*1,852				21.0 ft			
	0.0								3,330	2,510	2,130	1,640	1,540	1,190	1,180	910	1,120	860					6.2 m				
		0.0	kg	lb							*7,341	*5,534	*4,696	*3,616	*3,395	*2,623	*2,601	*2,006	*2,469	*1,896				20.4 ft			
	-1.0								3,320	2,510	2,110	1,610	1,520	1,170										5.8 m			
	-3.3	kg	lb							*5,886	*5,886	*6,812	*6,812	*7,319	*5,534	*4,652	*3,549	*3,351	*2,579					19.1 ft			
-2.0										*3,990	*3,990	*4,950	*4,950	3,350	2,540	2,120	1,620	1,540	1,180					5.2 m			
	-6.6	kg	lb							*8,796	*8,796	*10,913	*10,913	*7,385	*5,600	*4,674	*3,571	*3,395	*2,601					17.0 ft			
-3.0												*3,940	*3,940	*2,550	*2,550	*1,690	*1,690							4.1 m			
	-9.9	kg	lb									*8,686	*8,686	*5,622	*5,622	*3,726	*3,726							13.5 ft			
Boom 3.55 m, 11'8" Arm 1.7 m, 5'7" Shoe Rubber 450 mm, 1'6" CWT 1,610 kg / 3,550 lb Dozer blade down	5.0																							4.6 m			
		16.5	kg	lb																					15.0 ft		
	4.0																								5.3 m		
		13.2	kg	lb																						17.5 ft	
	3.0																								5.8 m		
		9.9	kg	lb																						19.0 ft	
	2.0																								6.0 m		
		6.6	kg	lb																						19.7 ft	
	1.0																									6.0 m	
		3.3	kg	lb																						19.7 ft	
	0.0																									5.8 m	
		0.0	kg	lb																						19.1 ft	
	-1.0																									5.4 m	
		-3.3	kg	lb																						17.7 ft	
	-2.0																									4.7 m	
	-6.6	kg	lb																						15.4 ft		
-3.0																									3.4 m		
	-9.9	kg	lb																						11.3 ft		
Boom 3.55 m, 11'8" Arm 1.7 m, 5'7" Shoe Rubber 450 mm, 1'6" CWT 1,610 kg / 3,550 lb Dozer blade up	5.0																								4.6 m		
		16.5	kg	lb																						15.0 ft	
	4.0																									5.3 m	
		13.2	kg	lb																							17.5 ft
	3.0																									5.8 m	
		9.9	kg	lb																							19.0 ft
	2.0																									6.0 m	
		6.6	kg	lb																							19.7 ft
	1.0																										6.0 m
		3.3	kg	lb																							19.7 ft
	0.0																										5.8 m
		0.0	kg	lb																							19.1 ft
	-1.0																										5.4 m
		-3.3	kg	lb																							17.7 ft
	-2.0																										4.7 m
	-6.6	kg	lb																							15.4 ft	
-3.0																										3.4 m	
	-9.9	kg	lb																							11.3 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 ECR88D

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 point		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		6.0, 19.8 ft		Max. reach					
	m	ft	kg	lb	Along		Across		Along		Across		Along		Across		Along	Across	Max.	
					Along	Across	Along	Across	Along	Across	Along	Across								
Boom 3.55 m, 11'8" Arm 2.1 m, 6'11" Shoe Rubber 450 mm, 1'6" CWT 1,610 kg / 3,550 lb Dozer blade down	6.0																*1,520	*1,520	4.0 m	
		19.8	kg	lb														*3,351	*3,351	13.0 ft
	5.0										*1,400	*1,400						*1,330	*1,330	5.1 m
		16.5	kg	lb							*3,086	*3,086						*2,932	*2,932	16.7 ft
	4.0										*1,360	*1,360						*1,230	1,190	5.8 m
		13.2	kg	lb							*2,998	*2,998						*2,712	*2,623	19.0 ft
	3.0								*1,660	*1,660	*1,490	*1,490	*1,410	1,110				*1,210	1,050	6.2 m
		9.9	kg	lb					*3,660	*3,660	*3,285	*3,285	*3,109	*2,447				*2,668	*2,315	20.3 ft
	2.0						*3,190	3,170	*2,120	2,040	*1,700	1,450	*1,490	1,080				*1,250	980	6.4 m
		6.6	kg	lb			*7,033	*6,989	*4,674	*4,497	*3,748	*3,197	*3,285	*2,381				*2,756	*2,161	20.9 ft
	1.0						*3,640	2,950	*2,540	1,930	*1,910	1,390	*1,580	1,060				*1,330	960	6.4 m
		3.3	kg	lb			*8,025	*6,504	*5,600	*4,255	*4,211	*3,064	*3,483	*2,337				*2,932	*2,116	21.0 ft
	0.0						*3,950	2,870	*2,770	1,860	*2,040	1,350	*1,610	1,040				*1,490	980	6.2 m
		0.0	kg	lb			*8,708	*6,327	*6,107	*4,101	*4,497	*2,976	*3,549	*2,293				*3,285	*2,161	20.4 ft
		-1.0	kg	lb	*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	kg	lb	*5,886	*5,886	*6,812	*6,812	*8,907	*6,305	*6,063	*4,057	*4,453	*2,932				*3,461	*2,359	19.1 ft
		-2.0	kg	lb	*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	kg	lb	*8,796	*8,796	*10,913	*10,913	*7,804	*6,371	*5,445	*4,079	*3,858	*2,954				*3,527	*2,822	17.0 ft
	-3.0	kg	lb			*3,940	*3,940	*2,550	*2,550	*1,690	*1,690						*1,560	*1,560	4.1 m	
	-9.9	kg	lb			*8,686	*8,686	*5,622	*5,622	*3,726	*3,726						*3,439	*3,439	13.6 ft	
Boom 3.55 m, 11'8" Arm 2.1 m, 6'11" Shoe Rubber 450 mm, 1'6" CWT 1,610 kg / 3,550 lb Dozer blade up	6.0																*1,520	*1,520	4.0 m	
		19.8	kg	lb														*3,351	*3,351	13.0 ft
	5.0										*1,400	*1,400						*1,330	*1,330	5.1 m
		16.5	kg	lb							*3,086	*3,086						*2,932	*2,932	16.7 ft
	4.0										*1,360	*1,360						*1,230	1,130	5.8 m
		13.2	kg	lb							*2,998	*2,998						*2,712	*2,491	19.0 ft
	3.0								*1,660	*1,660	*1,490	1,420	1,330	1,050				*1,210	990	6.2 m
		9.9	kg	lb					*3,660	*3,660	*3,285	*3,131	*2,932	*2,315				*2,668	*2,183	20.3 ft
	2.0						*3,190	2,980	*2,120	1,920	*1,700	1,370	1,300	1,020				*1,180	920	6.4 m
		6.6	kg	lb			*7,033	*6,570	*4,674	*4,233	*3,748	*3,020	*2,866	*2,249				*2,601	*2,028	20.9 ft
	1.0						3,600	2,760	2,330	1,820	1,670	1,310	1,270	990				*1,160	900	6.4 m
		3.3	kg	lb			*7,937	*6,085	*5,137	*4,012	*3,682	*2,888	*2,800	*2,183				*2,557	*1,984	21.0 ft
	0.0						3,520	2,680	2,260	1,750	1,630	1,270	1,250	970				*1,190	930	6.2 m
		0.0	kg	lb			*7,760	*5,908	*4,982	*3,858	*3,594	*2,800	*2,756	*2,138				*2,623	*2,050	20.4 ft
		-1.0	kg	lb	*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	kg	lb	*5,886	*5,886	*6,812	*6,812	*7,738	*5,886	*4,916	*3,792	*3,549	*2,756				*2,866	*2,227	19.1 ft
		-2.0	kg	lb	*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	kg	lb	*8,796	*8,796	*10,913	*10,913	*7,804	*5,952	*4,938	*3,836	*3,594	*2,800				*3,417	*2,668	17.0 ft
	-3.0	kg	lb			*3,940	*3,940	*2,550	*2,550	*1,690	*1,690						*1,560	*1,560	4.1 m	
	-9.9	kg	lb			*8,686	*8,686	*5,622	*5,622	*3,726	*3,726						*3,439	*3,439	13.6 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 EQUIPMENT

### Engine

Low-emission Tier 4f / Stage V diesel engine

Standard cooling system

Two-stage air filter

Fuel filter and water separator

Alternator, 70 A

Full auto regeneration

ECO mode

### Electric / Electronic control system

Safe engine start function

Automatic idling system

Halogen working lights:

2ea on Cab front top LH/RH each

Battery, 12 V / 100 Ah

Start motor, 12 V / 2.5 kW

Travel alarm

Monitor and keypad

Master electrical disconnect switch

### Frame

1 400kg (3,086lb) counterweight

Under cover

Dozer blade

### Undercarriage

Greased and sealed track link

450mm rubber track

### Hydraulic System

Automatic two speed travel motors

Cylinder cushioning

Hydraulic fluid mineral 46

ISO/SAE pilot control pattern change

### Cab and interior

Canopy

Cup holder

Seat belt, 2 inch retractable

Seat belt alarm

Control joystick

Master key

Hour meter (non analog)

PVC operator seat with suspension

Travel pedals and hand levers

### Digging Equipment

Boom: 3.55m (11'8"), Arm: 1.7m (5'7")

Linkage

### Service

Tool kit-daily maintenance

### Official approval

Object handling device conforming to ISO20474-1 and ISO20474-5 standards (when equipped)

FOPS Level 2 conforming to ISO3449 standard (when equipped)

ROPS conforming to ISO12117-2 standards

TOPS conforming to ISO12117 and EN13531 standards

FOG Level 2 conforming to ISO10262 standard and SAE J1356 standard (when equipped)

## OPTIONAL EQUIPMENT

### Electric / Electronic control system

Fuel filler pump: 35 l/min, with automatic shut-off

Auto engine shutdown

LED light

Extra working lights:

1ea on Cab rear

1ea on boom LH

1ea on boom LH (1st boom) for 2-piece boom

Caretrack

Travel alarm

Anti theft, code-lock

Rotating warning beacon

### Frame

Rearview mirror

Rearview Camera

Dozer blade with floating function

1 610kg (3,549 lb) Heavy counterweight

Wide dozer blade for 600mm (24") shoe

### Undercarriage

450mm (18"), 600mm (24") steel track

450mm (18") rubber pad

### Hydraulic System

Hydraulic piping:

Breaker & shear

- Max. flow: 118 l/min (31 gal/min) (X1 single) / 68 l/min (18 gal/min) (X1 double)

- Pressure: 21.6 MPa (3,132 psi) (X1 single) / 29.4 Mpa (4,264psi) (X1 double)

Slope & rotator

- Max. flow and pressure: 28 l/min (7.4 gal/min)

- Pressure: 14.7 MPa (2,130 psi)

Grapple

Quick coupler

Hose rupture valve for boom and arm

Overload warning device

Hydraulic oil, ISO VG 32, 68

Hydraulic oil, biodegradable 46

Hydraulic oil, longlife oil 46

### Cab and interior

Cab

Carecab

Fabric operator seat with heater

PVC operator seat without heater

PVC operator seat with heater

Fabric operator seat with heater with Air suspension

PVC operator seat with heater with Air suspension

Headrest

Heater and air-conditioner

Control joystick, X3 proportional

Seat belt, 3 inch retractable

Rain visor

Boom swing pedal

AM/FM stereo

Radio with MP3/AUX

Digital hour meter

Cab mounted FOG (Falling Object Guard)

FOPS (Falling Object Protection Structure)

Sun screen, front/roof

Safety net

### Digging Equipment

Arm: 2.1m (6'11")

### Service

Tool kit, full scale

Spare parts

**V O L V O**