

V O L V O



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

# ECR88D

Volvo Construction Equipment



# Welcome to our world

Welcome to a world of industry leading machinery. A world where imagination, hard work and technological innovation will lead the way towards developing a future which is cleaner, smarter, and more connected. A world supported by the enduring values of the Volvo Group. A world of stability, sustainability and innovation. A world which we put our customers at the heart of.

Welcome to the world of Volvo Construction Equipment – we think you're going to like it here.

## Small machines, big results

With decades of experience in the design and manufacture of compact excavators and wheel loaders, our range of compact machinery is designed with customer success in mind. Built from the same DNA as large Volvo machinery, our compact range sets the standard for efficiency performance and uptime – complemented by an extensive range of Volvo attachments for maximum versatility.

Building on our proud history, the Volvo Concept Lab continues to create cutting-edge ideas and innovative concepts – such as our award-winning electric compact machines – to ensure we offer our customers machines which deliver big results long into the future.



## Solutions for you

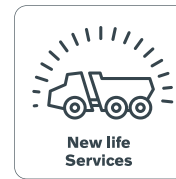
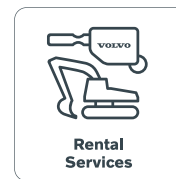
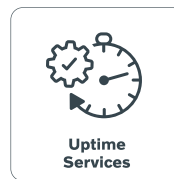
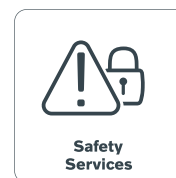
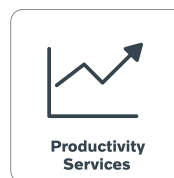
Our industry leading machines are just the start of your relationship with Volvo. As your partner, we have developed an extensive range of additional solutions to help you improve uptime, boost productivity and reduce costs.

### Designed for your business

Structured across nine blocks, our portfolio of products and services are designed to complement your machine's performance and boost your profitability. Simply put, we offer some of the best guarantees, warranties and technological solutions in the industry today.

### There when you need us

Whether you're buying new or used, our global network of dealers and technicians offer around-the-clock support, including machine monitoring and world-class parts availability. It's the basis of everything offered by Volvo Services, so you can be confident we've got you covered right from the start.



# BUILDING TOMORROW

# Powered to perform

Volvo proudly introduces the new ECR88D compact short swing radius excavator. Featuring a powerful Volvo engine and perfectly matched hydraulic system, this machine delivers high performance, excellent control and low fuel consumption. Sustain optimum power and productivity with Volvo.

## Volvo engine

Volvo's premium Tier 4f / Stage V engine delivers superior performance and low fuel consumption. The engine features an Exhaust After Treatment System (EATS) to lower emissions and a regeneration process that does not interrupt operation, performance or productivity.



## Slew and boom offset

Slew and boom offset movements are controlled simultaneously for easy and fast positioning of the machine. Joystick control enables precise, smooth and effortless command of the slew and boom offset.



## Tractive force

High system pressure delivers impressive tractive force when climbing gradients or traveling over rough terrain. For improved performance, the ECR88D boasts a 16% improvement in tractive force compared to the previous model.





# ENHANCED HYDRAULICS

Volvo's state-of-the-art hydraulic system is perfectly matched to the Volvo engine and components – delivering high performance and improved fuel efficiency. The hydraulic system has been designed for fast response and smooth operation.

# Stability you can count on

Whether you're working in the road construction, utilities, landscaping or any other application, the ECR88D will give you access to more jobsites, where you can work closer to obstacles, safely. With a heavy counterweight and strong undercarriage, this machine delivers superior stability. And with easy service access you'll enjoy maintenance made easy with Volvo.

## Service access

For safe and easy access, all service check points are located under the wide-opening engine hood and are accessed from ground level. Grouped filters ensure regular maintenance is straightforward and uptime is maximized.



## 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.



## MATRIS and VCADS Pro

For increased uptime, Volvo's high-tech, computer-based MATRIS tool allows you to monitor machine usage and analyze machine operation. VCADS Pro analysis and programming software provides fast diagnostics.





# STABILITY

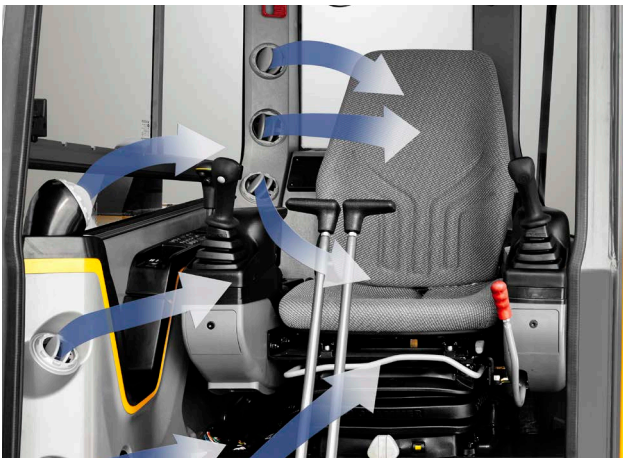
Design improvements including a counterweight have shifted the center of gravity towards the rear of the machine. Together with a strong undercarriage, this delivers superior stability while lifting bigger loads.

# Visibly better

At Volvo we know that when operators are comfortable they experience less fatigue and work more productively. That's why the premium, Volvo designed cab provides superior visibility, a safe and spacious working environment and easy to access controls. Step inside and see the results for yourself.

## Climate control

Control your climate with Volvo's powerful, industry-leading climate control system. With seven well-spaced vents quickly heating or cooling the cab, this air circulation and defrosting system increases comfort and productivity.



## Ease of control

Control your machine with minimal effort in order to get more done in less time. The keypad groups all controls on the right hand side and the 7" color LCD screen displays all machine information for access to functions through its easy to use menus. Through the hot keys, the operator can directly access pre-set functions for added convenience.



## Proportional joysticks

Via the joystick controls, the operator can easily adjust the direction and amount of hydraulic flow sent to the attachment. Benefit from the correct speed and power for optimal attachment operation.



## Storage

The Volvo cab features ample storage locations for personal belongings including an additional glove-box, side pocket, phone storage, cup holder and a pocket behind the seat.







# VOLVO CAB

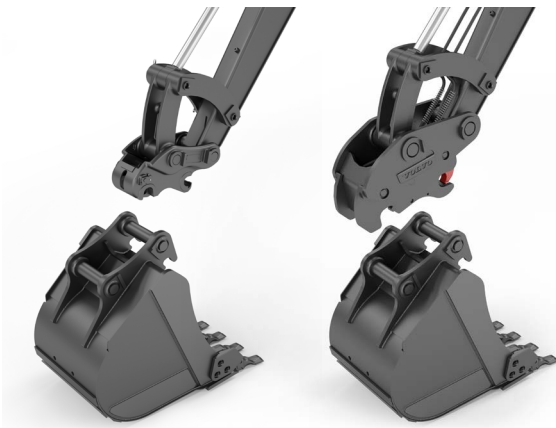
All-around visibility from slim cab pillars and large expanses of glass is at the center of Volvo's cab design. The ROPS certified cab features vibration and noise isolation, ergonomic controls and an adjustable seat for increased comfort, reduced fatigue and increased productivity.

# One machine, many job sites

Volvo offers a wide range of durable attachments that are suitable for any job site, including utilities, building, agriculture, landscaping and forestry. Volvo attachments are an integrated part of the excavator for which they're intended – delivering maximum productivity and versatility.

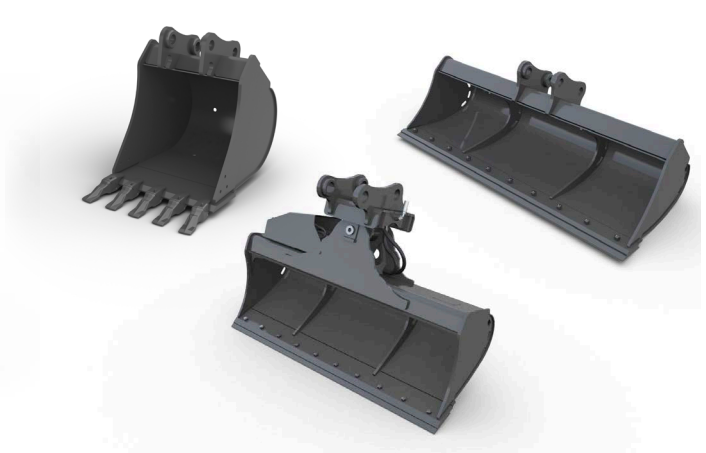
## Quick coupler

Both the mechanical and the hydraulic quick couplers allow a complete range of buckets to be changed quickly and efficiently.



## Buckets

A complete range of buckets from general purpose reinforced buckets to ditching buckets, allow the ECR88D to work on many job sites for a wide range of applications. The durable buckets are built to work in loose gravel, crushed rock, dirt and soil.



## Thumb

Designed to work with both Volvo direct fit buckets and Volvo quick coupler, the Volvo thumb makes handling material easy for tasks including piling, placing, loading, lifting and carrying.



## Steelwrist tiltrotator

A Volvo compact excavator together with a Steelwrist® tiltrotator delivers the ultimate combination of high productivity, safety, precision and control. Steelwrist tiltrotators provide a superior tilt angle and the compact design with low build height results in improved digging performance and higher fuel efficiency. Get more done with your machine, without changing attachment or machine position.





# ATTACHMENTS VERSATILITY

The machine's attachment can be easily changed to save time and costs. Its design, hydraulics, piping and in-cab controls combined with Volvo's attachments range allows the ECR88D to take on a variety of tasks. Volvo attachments work in harmony with the machine to deliver maximum productivity.

# Built to get the job done

## 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.

## 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.



# Adding value to your business

Being a Volvo customer means having a complete set of services at your fingertips. Volvo can offer you a long-term partnership, protect your revenue and provide a full range of customer solutions using high quality parts, delivered by passionate people. Volvo is committed to increasing the positive return on your investment and maximising uptime.

## Complete Solutions

Volvo has the right solution for you. So why not let us provide all your needs throughout the whole life cycle of your machine?

By listening to your requirements, we can reduce your total cost of ownership and increase your revenue.



## Genuine Volvo Parts

Our attention to detail is what makes us stand out. This proven concept acts as a solid investment in your machine's future. Parts are extensively tested and approved because every part is vital for uptime and performance. Only by using Genuine Volvo Parts, can you be sure that your machine retains the renowned Volvo quality.

## Service Network

In order to respond to your needs faster, a Volvo expert is on their way to your job site from one of our Volvo facilities. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.





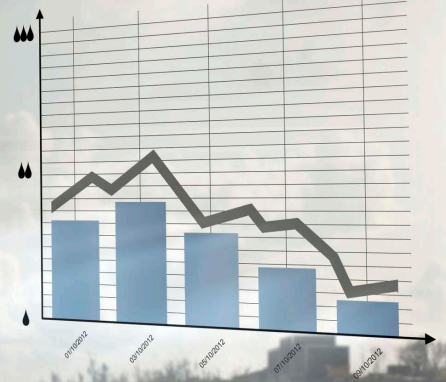
## PROFITABILITY



## SERVICE PLAN

DAY01	DAY02	DAY03	DAY04	DAY05	DAY06	DAY07
					✓	
			✓	✓		
✓						✓
		✓			✓	✓
✓						
		✓		✓		

## FUEL CONSUMPTION



# CUSTOMER SUPPORT AGREEMENTS

The range of Customer Support Agreements offer preventive maintenance, total repairs and a number of uptime services. Volvo uses the latest technology to monitor machine operation and status, giving you advice to increase your profitability. By having a Customer Support Agreement you are in control of your service costs.

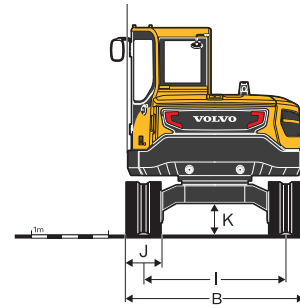
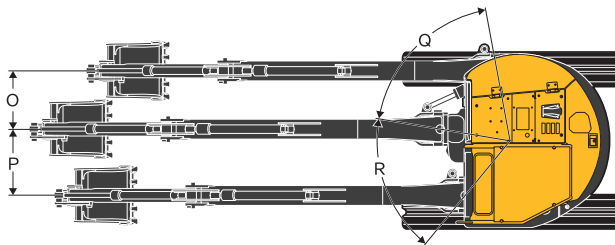
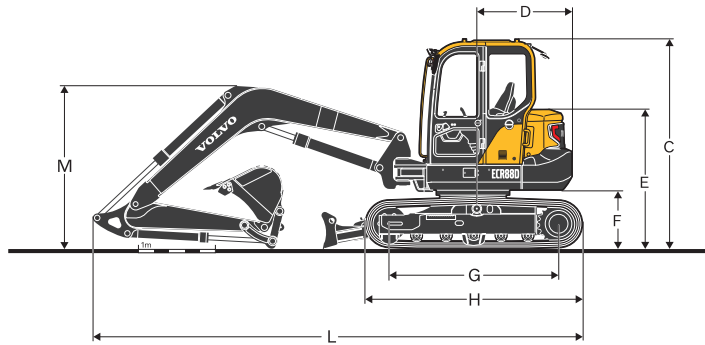
# Volvo ECR88D in detail

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
Hydraulic system		
Open-center, negative hydraulic system providing accurate controllability		
Main pump: Variable-displacement pump		
Maximum flow	l/min (gal/min)	2 x 68 + 54 (2 x 18 + 14)
Pilot pump: Gear pump		
Maximum flow	l/min (gal/min)	13 (3.4)
Relief valve setting pressure		
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)

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				
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)				
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 CO2-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				
Buckets						
	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

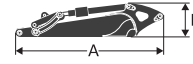
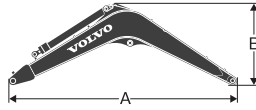
### Machine

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.

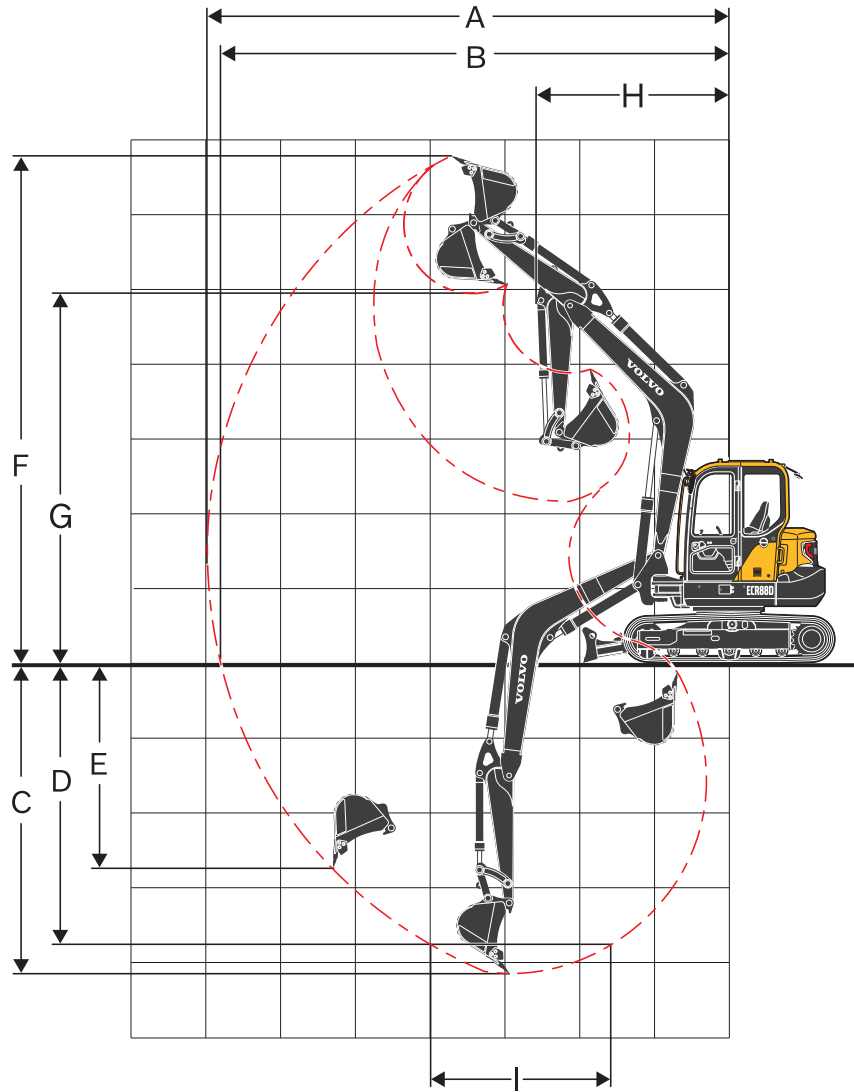
## Dozer blade

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 1 610 kg / 3,549 lb</b>						
Steel track	450	18	9,149	20,170	41.1	6.0
	600	24	9,318	20,543	31.4	4.55
Rubber track	450	18	8,962	19,758	40.3	5.9
Rubber pad	450	18	9,198	20,278	41.2	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	9,207	20,298	41.4	6.0
	600	24	9,376	20,671	31.6	4.6
Rubber track	450	18	9,020	19,886	40.6	5.9
Rubber pad	450	18	9,256	20,406	41.4	6.0



#### WORKING RANGES

Description		Unit					
		m	ft in	3.55	11'8"	3.55	11'8"
<b>Boom</b>		m	ft in	3.55	11'8"	3.55	11'8"
<b>Arm</b>		m	ft in	1.7	5'7"	2.1	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 (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



# 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 610kg (3,549 lb) Heavy 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
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### 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
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

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")
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### Service

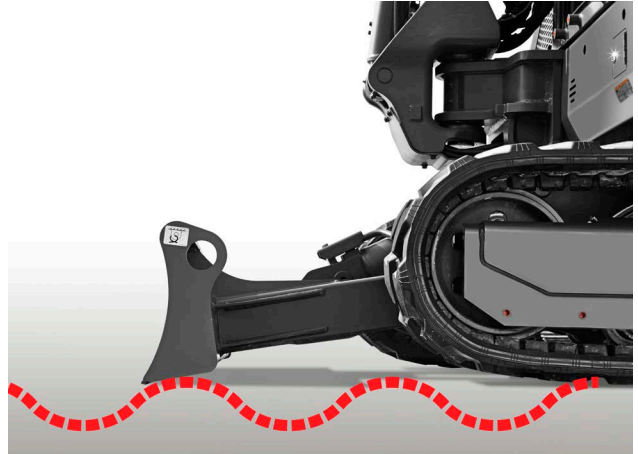
Tool kit, full scale
Spare parts

## SELECTION OF VOLVO OPTIONAL EQUIPMENT

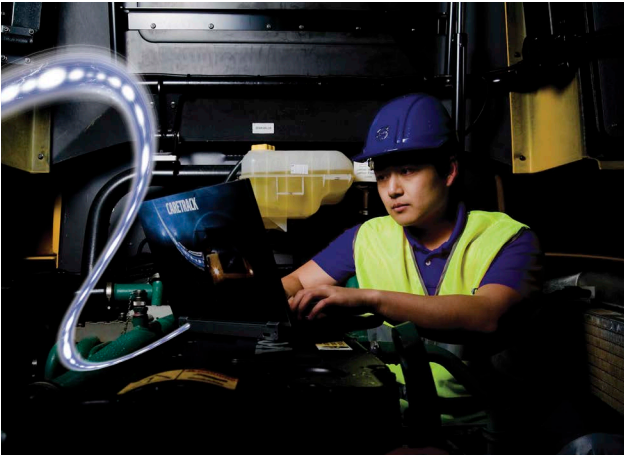
Slope and rotator piping



Dozer float



Caretrack



Fuel filler pump



Digital hour meter



Rearview Camera



Not all products are available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

# Notes

**V O L V O**