

V O L V O



Volvo Excavators 41.5 t 344 hp

# EC400 HAMMER

Volvo Construction Equipment

# EC400 HAMMER

The reinforced EC400 Hammer excavator is purpose-built to withstand the strains of breaker applications to take on the toughest of working conditions with ease.



# Robust and powerful

With robust engine power, one size up class main pump and excellent cooling performance, the EC400 Hammer excavator is tailor-made to achieve optimum results across demolition, rock excavation, foundation work, asphalt cutting and many more uses. And thanks to less noise and lower vibration you will experience the ultimate in comfort and productivity.



## Productivity

- 195 mm chisel hammer
- Bigger size cooling capacity
- Longer undercarriage
- Heavy-duty counterweight
- XD boom



## Durable design

- Standard track guard
- 600 mm double grouser track shoes
- Heavy-duty undercover
- Reversible, hydraulically driven cooling fan
- Engine protection: oil bath cleaner, fuel filter, water separators
- Delayed engine shut down



## Fuel efficient

- Electro-hydraulic system
- Proven Volvo engine
- High displacement main pump
- ECO mode
- Auto engine idle, Auto engine shutdown



## The operator's choice

- Low noise and vibration
- Extra front LED lights
- Ergonomic controls, Shortcut switch
- Bluetooth connectivity, USB port
- Air gun



## Straightforward maintenance

- Grouped filters and greasing points
- Single module cooler accessed from ground-level
- Anti-slip plates, High-visibility handrails
- Reversal fan

# Volvo EC400 Hammer in Detail

## Engine

The latest generation, Volvo engine Stage V emissions certified diesel engine fully meets the demands of the latest, emissions regulations. Featuring Volvo Advanced Combustion Technology (V-ACT), it is designed to deliver superior performance and fuel efficiency. The engine uses precise, high-pressure fuel injectors, turbo charger and air-to-air intercooler, and electronic engine controls to optimize machine performance.

**Air Filter:** 3-stage with precleaner.

**Automatic Idling System:** Reduces engine speed to idle when the levers and pedals are not activated resulting in less fuel consumption and low cab noise levels.

Engine	Volvo	D13J
Max power at	r/min	1 600
Net, ISO 9249/SAE J1349	kW	245
	hp	333
Gross, ISO 14396/SAE J1995	kW	253
	hp	344
Max torque	Nm	2 000
at engine speed	r/min	1 200

## Electrical system

High-capacity electrical system that is well protected. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard. Contronics provides advanced monitoring of machine functions and important diagnostic information.

Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	200
Alternator	V/A	28/80
Alternator rating	V - kW	2.2
Start motor	V - kW	7

## Undercarriage

The undercarriage has a robust X-shaped frame. Greased and sealed track chains are standard.

Track shoes		2 x 50
Link pitch	mm	215.9
Shoe width	mm	600
Shoe width, triple grouser	mm	800
Shoe width, triple grouser (HD)	mm	600
Shoe width, double grouser	mm	600
Bottom rollers		2 x 9
Top rollers		2 x 2

## Swing system

The swing system uses an axial piston motors, driving a planetary gearbox for maximum torque. An automatic holding brake and antirebound valve are standard.

Max. slew speed	r/min	10.2
Max. slew torque	kNm	130.5

## 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. drawbar pull	kN	276.5
Max. travel speed (low)	km/h	3.3
Max. travel speed (high)	km/h	5.1
Gradeability	°	35

## Cab

The operator's cab has easy access via a wide door opening. The cab is supported on hydraulic dampening mounts to reduce shock and vibration levels. These along with sound absorbing lining provide low noise levels. The cab has excellent all-round visibility. The front windshield can easily slide up into the ceiling, and the lower front glass can be removed and stored in the side door.

**Integrated airconditioning and heating system:** The pressurized and filtered cab air is supplied by an automatically controlled fan. The air is distributed throughout the cab from 14 vents.

**Ergonomic operator's seat:** The adjustable seat and joystick console move independently to accommodate the operator. The seat has 12 different adjustments plus a seat belt for the operator's comfort and safety. Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1430 CO<sub>2</sub>-eq.



Service Refill		
Fuel tank	l	472
DEF/AdBlue® tank	l	62.5
Hydraulic system, total	l	500
Hydraulic tank	l	225
Engine oil	l	42
Engine coolant	l	60
Slew reduction unit	l	6.5
Travel reduction unit	l	2 x 6.8

Sound Level		
Sound pressure level in cab according to ISO 6396		
L <sub>pA</sub>	dB	71
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
L <sub>WA</sub>	dB	105

#### Hydraulic system

The new electro-hydraulic system and new MCV (main control valve) use intelligent technology to control on-demand flow for high productivity, high-digging capacity and excellent fuel consumption.

The following important functions are included in the system for optimum performance:

**Summation system:** Combines the flow of both hydraulic pumps to ensure quick cycle times and high productivity.

**Boom priority:** Gives priority to the boom operation for faster raising when loading or performing deep excavations.

**Arm priority:** Gives priority to the arm operation for faster cycle times in leveling and for increased bucket filling when digging.

**Swing priority:** Gives priority to swing functions for faster simultaneous operations.

**Regeneration system:** Prevents cavitation and provides flow to other movements during simultaneous operations for maximum productivity.

**Power boost:** All digging and lifting forces are increased.

**Holding valves:** Boom and arm holding valves prevent the digging equipment from creeping.

#### Main pump, Type 2 x variable displacement axial piston pumps

Maximum flow	l/min	2 x 334
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#### Pilot pump, Type Gear pump

Maximum flow	l/min	32.6
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#### Max. pressure

Implement	MPa	32.4/35.3
Travel circuit	MPa	35.3
Slew circuit	MPa	27.9
Pilot circuit	MPa	3.9

#### Hydraulic Motors

**Travel:** Variable displacement axial piston motor with mechanical brake.

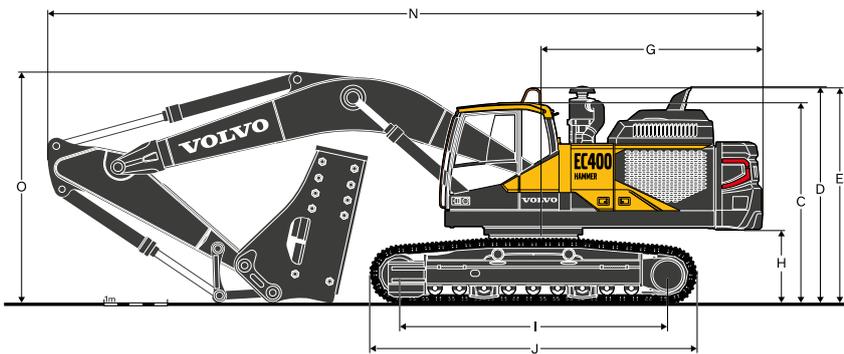
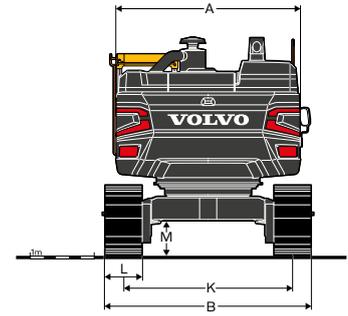
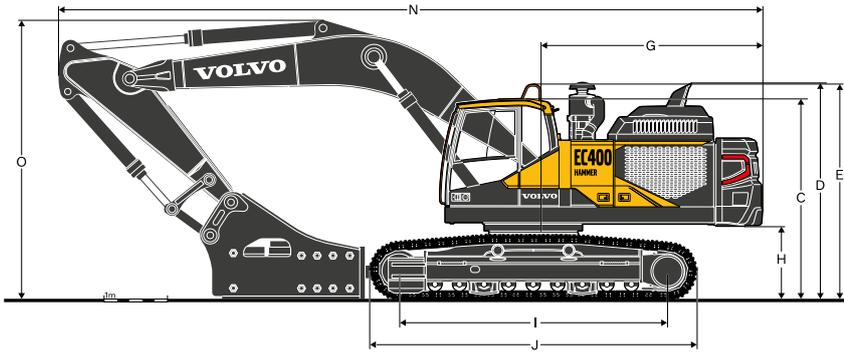
**Slew:** Fixed displacement axial piston motor with mechanical brake

#### Hydraulic Cylinders

Mono boom		2
Bore x Stroke	ø x mm	160 x 1530
Arm		1
Bore x Stroke	ø x mm	175 x 1700
Bucket		1
Bore x Stroke	ø x mm	145 x 1285
ME Bucket		1
Bore x Stroke	ø x mm	160 x 1250
Bucket for LR boom		1
Bore x Stroke	ø x mm	140 x 1140



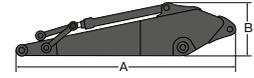
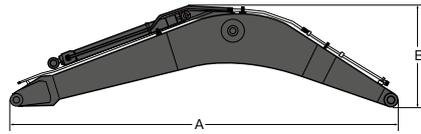
# Specifications



## DIMENSIONS

Description	Unit	
<b>Boom</b>	<b>m</b>	<b>6.45</b>
<b>Arm</b>	<b>m</b>	<b>2.6</b>
A. Overall width of upper structure	mm	2 990
B. Overall width	mm	3 340
C. Overall height of cab	mm	3 220
D. Overall height of diffuser	mm	3 465
E. Overall height of handrail	mm	3 440
F. Overall height of guardrail (unfolded)	mm	3 685
F'. Overall height of guardrail (folded)	mm	3 215
G. Tail swing radius	mm	3 600
H. Counterweight clearance*	mm	1 150
I. Tumbler length	mm	4 240
J. Track length	mm	5 180
K. Track gauge	mm	2 740
L. Shoe width	mm	600
M. Min. ground clearance*	mm	500
N. Overall length	mm	11 310
O. Overall height of boom(with BKT)	mm	3 580
P. Overall height of boom(With hammer 1position)	mm	4 490
Q. Overall height of boom(With hammer 2position)	mm	3 900

\* Without shoe grouser

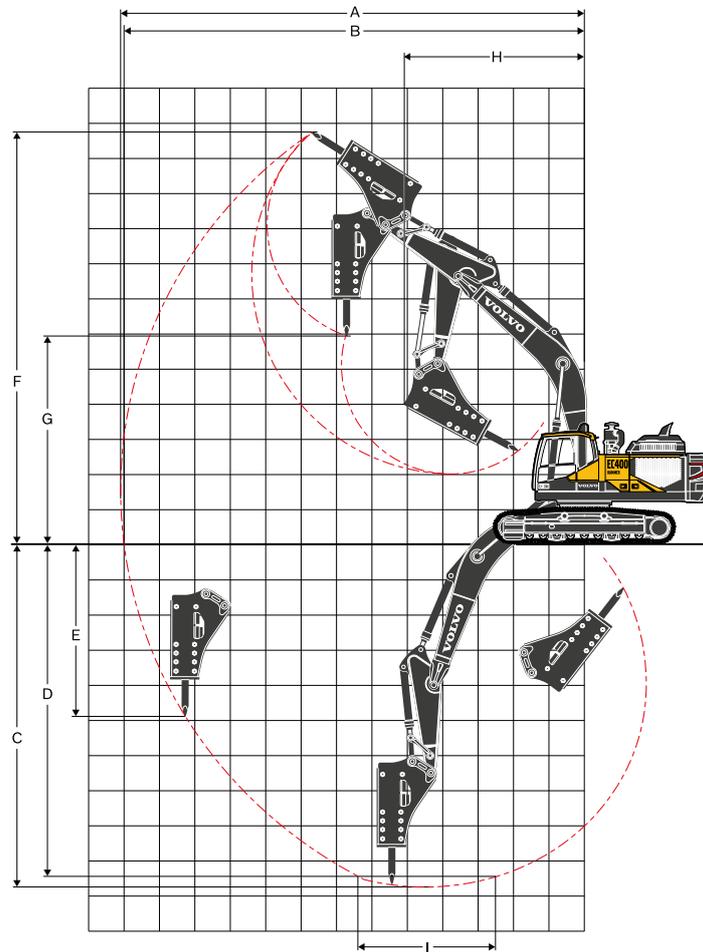


**DIMENSIONS**

Boom			Arm		
	Unit		Description	Unit	
<b>Boom</b>	<b>m</b>	<b>6.45 XD</b>	<b>Arm</b>	<b>m</b>	<b>2.6 ME</b>
A	mm	6 700	A	mm	3 780
B	mm	1 800	B	mm	1 145
Width	mm	820	Width	mm	560
Weight	kg	3 310	Weight	kg	2 050

\* Includes arm cylinder, piping and pin

\* Includes bucket cylinder, linkage and pin



**WORKING RANGE**

Description	Unit	
<b>Boom</b>	<b>m</b>	<b>6.45</b>
<b>Arm</b>	<b>m</b>	<b>2.6</b>
a. Max. break height	mm	12 220
b. Max. break depth	mm	7 720
c. Max. break reach	mm	11 990
d. Breaker height on Max. Break reach	mm	3 545
e. Max. break reach on ground	mm	10 090
f. Min. break reach on ground	mm	6 900

# Specifications

## MACHINE WEIGHTS AND GROUND PRESSURE

Description	Shoe width		Operating weight		Ground pressure	
	mm		kg		kPa	
Triple grouser	800		40 142		54.7	
Double grouser	600		39 521		71.8	
<b>EC400HB with LC undercarriage, 6.45 m boom, 2.6 m arm, 8 200 kg counterweight</b>						

## LIFTING CAPACITY EC400HB

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		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		Max. Reach	
			Along UC	Across UC	Along UC	Across UC										
Boom : 6.45 m Arm : 2.6 m Shoe : 600 mm CWT : 7 250 kg	7.5 m	kg									*8 230	*8 230			*6 500	*6 500
	6.0 m	kg									*8 590	*8 590	*7 720	7 220	*6 350	*6 350
	4.5 m	kg							*10 460	*10 460	*9 460	9 450	*8 930	7 110	*6 400	6 250
	3.0 m	kg					*16 530	*16 530	*12 550	*12 550	*10 600	9 110	*9 510	6 940	*6 640	5 900
	1.5 m	kg					*20 170	18 260	*14 550	12 040	*11 750	8 780	*10 150	6 760	*7 080	5 790
	0.0 m	kg			*9 350	*9 350	*22 170	17 590	*15 990	11 610	*12 650	8 520	10 260	6 610	*7 790	5 890
	-1.5 m	kg	*9 550	*9 550	*14 250	*14 250	*22 650	17 350	*16 630	11 380	*13 090	8 370	10 180	6 540	*8 970	6 250
	-3.0 m	kg	*14 860	*14 860	*20 580	*20 580	*21 880	17 370	*16 370	11 350	*12 810	8 350			*10 730	7 010
	-4.5 m	kg	*21 220	*21 220	*27 670	*27 670	*19 730	17 630	*14 880	11 500					*11 200	8 580
Boom : 6.45 m Arm : 2.6 m Shoe : 600 mm CWT : 8 200kg	7.5 m	kg									*8 180	*8 180			*6 480	*6 480
	6.0 m	kg									*8 540	*8 540	*7 700	7 620	*6 330	*6 330
	4.5 m	kg							*10 410	*10 410	*9 410	*9 410	*8 880	7 510	*6 380	*6 380
	3.0 m	kg					*16 460	*16 460	*12 490	*12 490	*10 540	9 620	*9 460	7 340	*6 620	6 250
	1.5 m	kg					*20 090	19 270	*14 480	12 710	*11 690	9 280	*10 090	7 150	*7 060	6 130
	0.0 m	kg			*9 330	*9 330	*22 080	18 590	*15 910	12 270	*12 590	9 010	*10 570	7 010	*7 770	6 240
	-1.5 m	kg	*9 530	*9 530	*14 230	*14 230	*22 560	18 350	*16 560	12 050	*13 020	8 860	*10 670	6 940	*8 950	6 620
	-3.0 m	kg	*14 840	*14 840	*20 560	*20 560	*21 790	18 380	*16 290	12 010	*12 750	8 840			*10 680	7 430
	-4.5 m	kg	*21 200	*21 200	*27 560	*27 560	*19 650	18 640	*14 810	12 170					*11 140	9 080

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.



# Equipment

## STANDARD EQUIPMENT

### Engine

Turbocharged, 4 stroke diesel engine with water cooling, direct injection and charged air cooler that meets CN4 requirements
Air filter with indicator
Air intake heater
Oil bath pre-cleaner
Electric engine shut-off
Fuel filter and water separator
Alternator, 80 A
Reversible fan drive
Auto engine shutdown

### Electric / Electronic control system

Contronics
Advanced mode control system
Self-diagnostic system
Machine status indication
Engine speed sensing power control
Automatic idling system
One-touch power boost
Safety stop/start function
Adjustable 8inch LCD color monitor
Master electrical disconnect switch
Engine restart prevention circuit
Cleaning air gun
High-capacity LED lights:
Frame-mounted 2
Boom-mounted 2
Cab front mounted 2
Rotating warning beacon
Batteries, 2 x 12 V / 200 Ah
Start motor, 24 V / 7 kW

### Frame

Access way with handrail
Tool storage area
Punched metal anti-slip plates
HD Undercover

### Undercarriage

Undercover(Belly cover)
Hydraulic track adjusters
Greased and sealed track link
Track Guard(stand)

### Hydraulic system

Automatic sensing hydraulic system
2-pump flow bucket circuit
Summation system
Boom priority
Arm priority
Swing priority
Boom, arm and bucket regeneration valves
Swing anti-rebound valves
Boom and arm holding valves
Multi-stage filtering system
Cylinder cushioning
Cylinder contamination seals
Auxiliary hydraulic valve
Elec pedal cont on X1(on/off)
MCV, Preset
Automatic two-speed travel motors
2 pump single acting for hammer
Boom cylinder protector
Hammer & shear, preparation for 200 hammer, Pre-setting
Longlife Hydraulic oil, ISO VG 46

## STANDARD EQUIPMENT

### Counterweight

Counterweight 8 200 kg
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### Cab and interior

ROPS (ISO12117-2) certified cab
Silicon oil and rubber mounts with spring
Travel pedals and hand levers
Adjustable mechanical operator seat with heater and joystick control console
Control joysticks tropical
Heater & air-conditioner, automatic
Flexible antenna
Radio with MP3 & USB Jack with bluetooth, with keypad
Hydraulic safety lock lever
Cab, all-weather sound suppressed, includes:
Cup holders
Door locks
Tinted glass
Floor mat
Horn
Large storage area
Pull-up type front window
Removable lower windshield
Seat belt
Safety glass
Sun screens, front, roof, rear
Safety net for front window, 1P
Windshield wiper with intermittent feature
Rear view camera
Master key

### Track shoes

600 mm with triple grousers
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### Digging equipment

Boom: 6.45 m XD
Arm: 2.6 m XD
Manual centralized lubrication

### Service

Tool kit maintenance
Air compressor

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**OPTIONAL EQUIPMENT**

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**Engine**

Block heater: 120 V, 240 V

Diesel coolant heater, 10 kW

Water separator with heater

Fuel filler pump: 50 l/min, with automatic shut-off

**Electric**

Extra work lights: LED

Cab mounted 3

Extra Boom-mounted 2

Counterweight-mounted 1

Travel alarm

Anti-theft system

Boom float

**Frame**

Guardrail

**Undercarriage**

Full track guard

**Hydraulic system**

Hose rupture valve: Boom

Hose rupture valve: arm

Hydraulic piping:

Variable flow and pressure pre-setting

Additional return filter

Slope & rotator

Hydraulic oil, longlife oil 32

Hydraulic oil, longlife oil 68

**Counterweight**

7 250 kg

**Cab and interior**

Fabric seat with heater and air suspension

Falling object guard (FOG)

Cab-mounted

Cab-mounted falling object protective structure (FOPS)

Safety net for lower front window

Specific key

Control joysticks with 4 switches each

Control joysticks with 3 switches each and 1 proptional switch

**Track shoes**

Track shoes 800 mm with triple grousers

**V O L V O**