

V O L V O



Volvo Excavators 8.8-10.5 t 74 hp

# ECR90

Volvo Construction Equipment

# ECR90

The Volvo ECR90 packs 10-tonne+ performance into a compact 9-tonne 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.

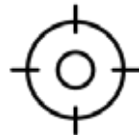


## Operator control



- 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 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



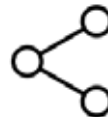
- 18% more air-con performance
- New, wider and height adjustable arm rests
- New tiltable left-hand console for easy entry/exit
- Entry door openable window
- Optional cooling/heating function integrated into seat

## 8% larger cab



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

## Versatility and customization



- 136 l/min 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 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

## 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)

## 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

## 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 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+ 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

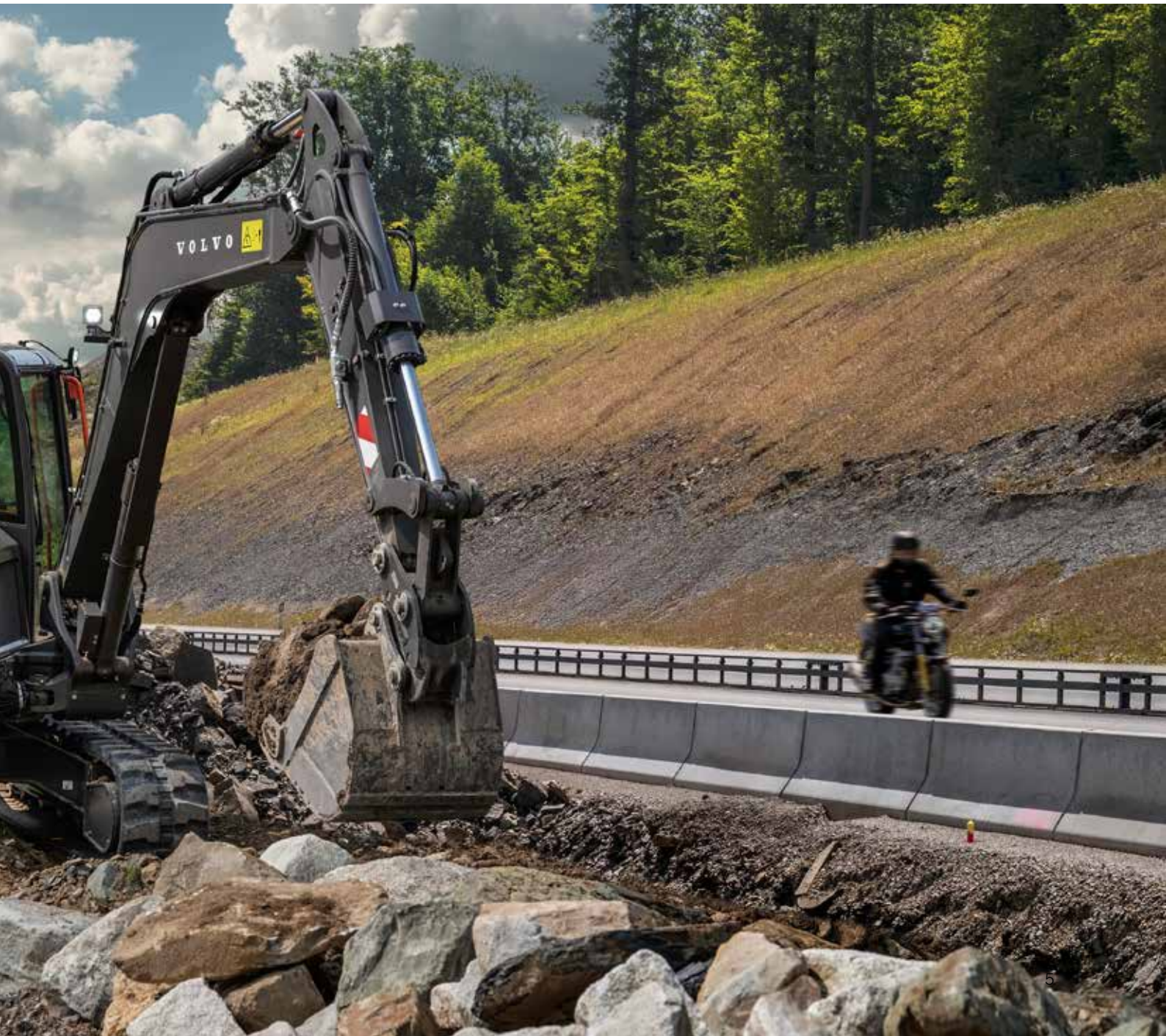
- Compact design, superior stability and minimal tail swing
- Work efficiently in confined spaces
- 28% more engine power
- 15% more pump torque
- 7% more tractive force
- Get ready for fast cycle times and maximum productivity

## 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

## 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



# 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   | 2 000 |
| Net (ISO 9249/SAEJ 1349) | kW    | 53.5  |
| Net (ISO 9249/SAEJ 1349) | hp    | 72.7  |
| Gross (SAE J1995)        | kW    | 54.6  |
| Gross (SAE J1995)        | hp    | 74.2  |
| Max. torque              | Nm    | 289   |
| at engine speed          | rpm   | 1 400 |
| No. of cylinders         |       | 4     |
| Displacement             | lit   | 3.33  |
| Bore                     | mm    | 94    |
| Stroke                   | mm    | 120   |

## 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 | 154       |
| Shoe width - steel  | mm | 450 / 600 |
| Shoe width - rubber | mm | 450       |
| 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 | 2.6  |
| Max. travel speed high | km/h | 5.0  |
| Max. drawbar pull      | kN   | 68.3 |
| 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 | 23.5 |

## Service Refill

|                         |     |         |
|-------------------------|-----|---------|
| Fuel tank               | lit | 130     |
| Hydraulic system, total | lit | 113     |
| Hydraulic tank          | lit | 60      |
| Engine oil              | lit | 11.9    |
| Engine coolant          | lit | 9.3     |
| Travel reduction unit   | lit | 2 x 1.6 |

## Sound Level

|  |    |    |
|--|----|----|
| Interior sound level according to ISO 6396   |    |    |
| L <sub>pA</sub>  | dB | 74 |
| External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009 |    |    |
| L <sub>WA</sub>  | dB | 98 |

## Hydraulic System

Open-center, negative hydraulic system providing accurate controllability

### Main pump: Variable-displacement pump

|              |       |     |
|--------------|-------|-----|
| Maximum flow | l/min | 190 |
|--------------|-------|-----|

### Max. pressure

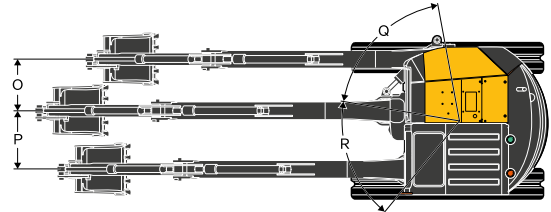
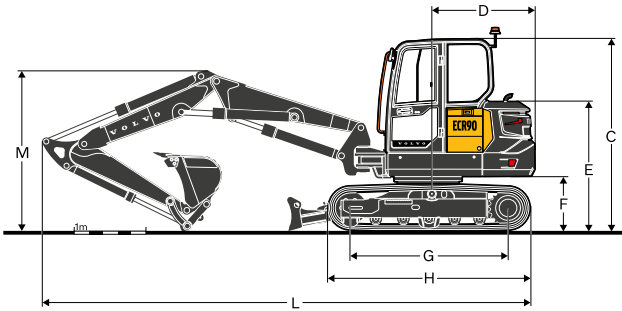
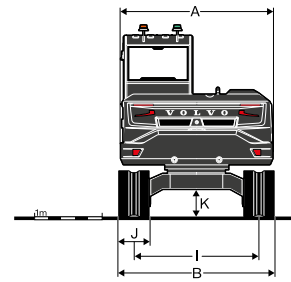
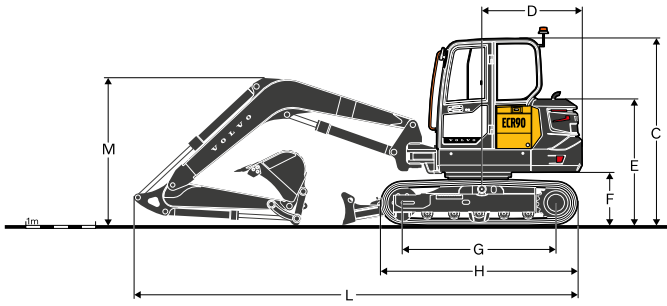
|                |     |      |
|----------------|-----|------|
| Implement      | MPa | 29.4 |
| Travel circuit | MPa | 31.4 |
| Swing circuit  | MPa | 24.5 |
| Pilot circuit  | MPa | 3.4  |

### Pilot pump: Gear pump

|  |       |      |
|--|-------|------|
| Maximum system flow                        | l/min | 13   |
| Maximum flow for accessories               | l/min | 136  |
| Maximum pressure for accessories           | MPa   | 29.5 |
| Maximum flow for 2nd accessory circuit     | l/min | 28   |
| Maximum pressure for 2nd accessory circuit | MPa   | 15   |



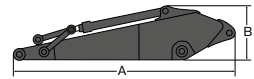
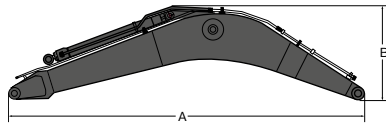
# Specifications



## DIMENSIONS

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

\* Without shoe grouser



**DIMENSIONS**

| Description |        | Unit | Boom   |                 | Description |        | Arm   |       |       |
|-------------|--------|------|--------|-----------------|-------------|--------|-------|-------|-------|
|             |        |      | 3.55 m | 3.85 m 2-pieces |             |        | 1.7 m | 2.1 m |       |
| A           | Length | mm   | 3 700  | 4 030           | A           | Length | mm    | 2 283 | 2 684 |
| B           | Height | mm   | 1 244  | 983             | B           | Height | mm    | 518   | 562   |
| Width       |        | mm   | 335    | 340             | Width       |        | mm    | 305   | 305   |
| Weight      |        | kg   | 530    | 774             | Weight      |        | kg    | 280   | 340   |

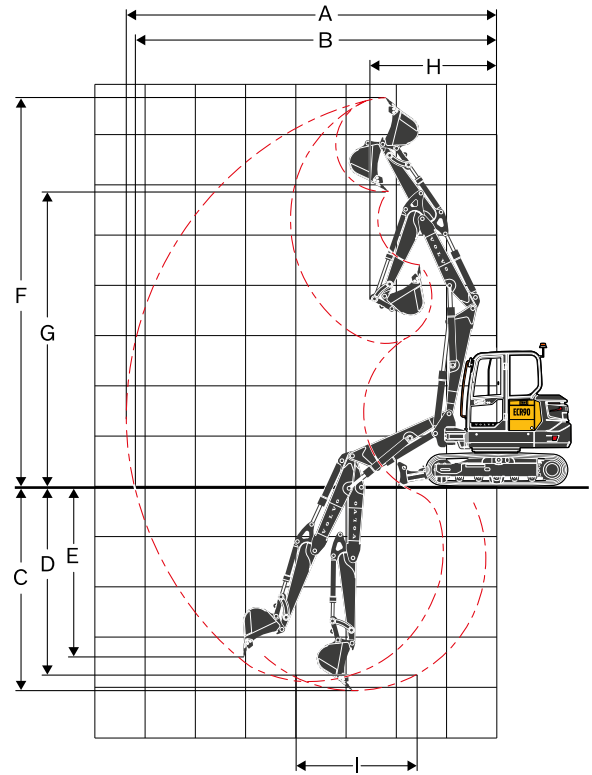
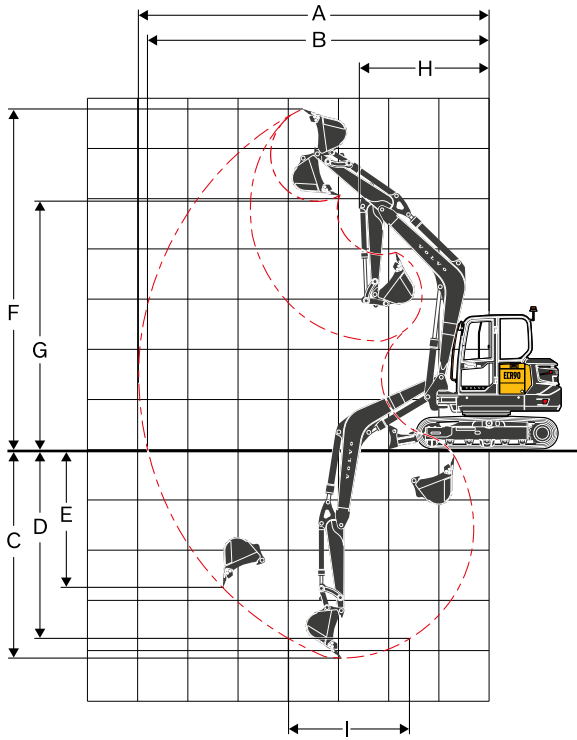
Includes cylinder, piping and pin, excludes boom cyl. Pin

Includes cylinder, linkage and pin

**DIMENSIONS**

| Dozer blade |                | Unit | Standard Dozer |
|-------------|----------------|------|----------------|
| A           | Height         | mm   | 470            |
|             | Width          | mm   | 2 300          |
| B           | Lifting height | mm   | 518            |
| C           | Digging depth  | mm   | 433            |

# Specifications



## WORKING RANGES

| Description                              | Unit     | ECR90         |              |
|--|----------|---------------|--------------|
| <b>Boom</b>                              | <b>m</b> | <b>3.55 m</b> |              |
| <b>Arm</b>                               | <b>m</b> | <b>1.7 m</b>  | <b>2.1 m</b> |
| A. Max. digging reach                    | mm       | 6 970         | 7 350        |
| B. Max. digging reach on ground          | mm       | 6 800         | 7 180        |
| C. Max. digging depth                    | mm       | 4 130         | 4 530        |
| D. Max. digging depth (l=2 440 mm level) | mm       | 3 750         | 4 200        |
| E. Max. vertical wall digging depth      | mm       | 2 820         | 3 200        |
| F. Max. cutting height                   | mm       | 6 790         | 7 050        |
| G. Max. dumping height                   | mm       | 4 960         | 5 220        |
| H. Min. front swing radius               | mm       | 2 570         | 2 650        |

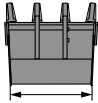


## DIGGING FORCES WITH DIRECT FIT BUCKET

|                         |           |    |      |      |
|-------------------------|-----------|----|------|------|
| Breakout force (bucket) | SAE J1179 | kN | 57.1 | 56.8 |
|                         | ISO 6015  | kN | 65.0 | 64.6 |
| Tearout force (arm)     | SAE J1179 | kN | 43.3 | 37.7 |
|                         | ISO 6015  | kN | 44.4 | 38.4 |
| 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         | kg   | kPa             | mm            | kg   | kPa             | mm            |
| Steel track  | 450        | 9 100  | 41.0            | 2 300         | 9 162  | 41.2            | 2 300         |
|              | 600        | 9 268  | 31.3            | 2 450         | 9 330  | 31.5            | 2 450         |
| Rubber track | 450        | 8 927  | 40.0            | 2 300         | 8 989  | 40.3            | 2 300         |
| Rubber pad   | 450        | 9 250  | 41.1            | 2 300         | 9 312  | 41.4            | 2 300         |
|              |            | 3.55 m boom, 1.7 m arm, 266 L bucket,<br>1 500 kg counterweight          |                 |               | 3.55 m boom, 2.1 m arm, 266 L bucket,<br>1 500 kg counterweight          |                 |               |
| Description  | Shoe width | Operating weight   | Ground pressure | Overall width | Operating weight   | Ground pressure | Overall width |
|              | mm         | kg   | kPa             | mm            | kg   | kPa             | mm            |
| Steel track  | 450        | 9 409  | 42.4            | 2 300         | 9 471  | 42.6            | 2 300         |
|              | 600        | 9 577  | 32.3            | 2 450         | 9 639  | 32.5            | 2 450         |
| Rubber track | 450        | 9 236  | 41.4            | 2 300         | 9 298  | 41.6            | 2 300         |
| Rubber pad   | 450        | 9 559  | 42.5            | 2 300         | 9 621  | 42.8            | 2 300         |
|              |            | 3.85 m 2-pieces boom, 1.7 m arm, 266 L bucket,<br>1 500 kg counterweight |                 |               | 3.85 m 2-pieces boom, 2.1 m arm, 266 L bucket,<br>1 500 kg counterweight |                 |               |

**BUCKETS**

|  |  |  |
|---|---|---|
| Width   | Weight  | Capacity  |
| mm  | kg  | l   |
| 300   | 118   | 79  |
| 450   | 145   | 143   |
| 600   | 169   | 200   |
| 750   | 188   | 266   |
| 900   | 212   | 333   |
| 1 500   | 241   | 266   |

**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 Boom, Direct Fit |        |           |        |
|-------------|------------------|------------------------|--------|-----------|--------|
|             |                  | 1.7 m Arm              |        | 2.1 m Arm |        |
|             |                  | Material density       | Volume | Weight    | Volume |
|             | t/m <sup>3</sup> | L                      | kg     | L         | kg     |
| GP Bucket   | 1.5              | 425                    | 325    | 400       | 300    |
|             | 1.8              | 375                    | 275    | 350       | 250    |

# 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    |            | 2.0 m    |            | 3.0 m    |            | 4.0 m    |            | 5.0 m    |            | 6.0 m    |            | 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<br>Arm: 1.7 m<br>Shoe<br>Rubber: 450 mm<br>CWT: 1 400 kg<br>Dozer blade down | 5.0m                                 | kg |          |            |          |            |          |            | *1540    | *1540      |          |            |          |            | *1620     | *1620      | 4.6 m |
|   | 4.0m                                 | kg |          |            |          |            |          |            | *1600    | *1600      | *1560    | 1450       |          |            | *1580     | 1290       | 5.3 m |
|   | 3.0m                                 | kg |          |            |          |            | *2510    | *2510      | *1920    | *1920      | *1660    | 1420       |          |            | *1550     | 1110       | 5.8 m |
|   | 2.0m                                 | kg |          |            |          |            | *3740    | 2940       | *2360    | 1920       | *1850    | 1370       | *1610    | 1030       | *1600     | 1030       | 6.0 m |
|   | 1.0m                                 | kg |          |            |          |            |          |            | *2720    | 1830       | *2030    | 1330       | *1650    | 1010       | *1650     | 1010       | 6.0 m |
|   | 0.0m                                 | kg |          |            |          |            | *3810    | 2750       | *2850    | 1780       | *2100    | 1290       |          |            | *1690     | 1040       | 5.8 m |
|   | -1.0m                                | kg |          |            | *3570    | *3570      | *3890    | 2760       | *2730    | 1770       | *2000    | 1290       |          |            | *1730     | 1160       | 5.4 m |
|   | -2.0m                                | kg |          |            | *4870    | *4870      | *3240    | 2800       | *2310    | 1790       |          |            |          |            | *1740     | 1430       | 4.7 m |
|   | -3.0m                                | kg |          |            |          |            | *1930    | *1930      |          |            |          |            |          |            | *1540     | *1540      | 3.4 m |
| Boom: 3.55 m<br>Arm : 1.7 m<br>Shoe<br>Rubber: 450 mm<br>CWT: 1 400 kg<br>Dozer blade up  | 5.0m                                 | kg |          |            |          |            |          |            | *1540    | *1540      |          |            |          |            | *1620     | 1580       | 4.6 m |
|   | 4.0m                                 | kg |          |            |          |            |          |            | *1600    | *1600      | *1560    | 1370       |          |            | 1540      | 1220       | 5.3 m |
|   | 3.0m                                 | kg |          |            |          |            | *2510    | *2510      | *1920    | 1910       | *1660    | 1340       |          |            | 1340      | 1050       | 5.8 m |
|   | 2.0m                                 | kg |          |            |          |            | 3580     | 2750       | 2310     | 1810       | 1650     | 1290       | 1240     | 970        | 1240      | 970        | 6.0 m |
|   | 1.0m                                 | kg |          |            |          |            |          |            | 2220     | 1720       | 1600     | 1250       | 1220     | 950        | 1220      | 950        | 6.0 m |
|   | 0.0m                                 | kg |          |            |          |            | 3390     | 2580       | 2170     | 1670       | 1570     | 1220       |          |            | 1260      | 980        | 5.8 m |
|   | -1.0m                                | kg |          |            | *3570    | *3570      | 3400     | 2580       | 2160     | 1660       | 1560     | 1210       |          |            | 1400      | 1090       | 5.4 m |
|   | -2.0m                                | kg |          |            | *4870    | *4870      | *3240    | 2620       | 2180     | 1690       |          |            |          |            | *1740     | 1350       | 4.7 m |
|   | -3.0m                                | kg |          |            |          |            | *1930    | *1930      |          |            |          |            |          |            | *1540     | *1540      | 3.4 m |
| Boom: 3.55 m<br>Arm: 2.1 m<br>Shoe<br>Rubber: 450 mm<br>CWT: 1 400 kg<br>Dozer blade down | 6.0m                                 | kg |          |            |          |            |          |            |          |            |          |            |          |            | *1520     | *1520      | 4.0 m |
|   | 5.0m                                 | kg |          |            |          |            |          |            |          |            | *1400    | *1400      |          |            | *1330     | *1330      | 5.1 m |
|   | 4.0m                                 | kg |          |            |          |            |          |            |          |            | *1360    | *1360      |          |            | *1230     | 1120       | 5.8 m |
|   | 3.0m                                 | kg |          |            |          |            |          |            | *1660    | *1660      | *1490    | 1420       | *1410    | 1040       | *1210     | 980        | 6.2 m |
|   | 2.0m                                 | kg |          |            |          |            | *3190    | 3000       | *2120    | 1920       | *1700    | 1360       | *1490    | 1020       | *1250     | 910        | 6.4 m |
|   | 1.0m                                 | kg |          |            |          |            | *3640    | 2770       | *2540    | 1810       | *1910    | 1310       | *1580    | 990        | *1330     | 890        | 6.4 m |
|   | 0.0m                                 | kg |          |            |          |            | *3950    | 2690       | *2770    | 1750       | *2040    | 1260       | *1610    | 970        | *1490     | 920        | 6.2 m |
|   | -1.0m                                | kg | *2670    | *2670      | *3090    | *3090      | *4040    | 2680       | *2750    | 1720       | *2020    | 1250       |          |            | *1570     | 1000       | 5.8 m |
|   | -2.0m                                | kg | *3990    | *3990      | *4950    | *4950      | *3540    | 2720       | *2470    | 1730       | *1750    | 1260       |          |            | *1600     | 1200       | 5.2 m |
| -3.0m   | kg                                   |    |          | *3940      | *3940    | *2550      | *2550    | *1690      | *1690    |            |          |            |          | *1560      | *1560     | 4.1 m      |       |
| Boom: 3.55 m<br>Arm: 2.1 m<br>Shoe<br>Rubber: 450 mm<br>CWT: 1 400 kg<br>Dozer blade up   | 6.0m                                 | kg |          |            |          |            |          |            |          |            |          |            |          |            | *1520     | *1520      | 4.0 m |
|   | 5.0m                                 | kg |          |            |          |            |          |            |          |            | *1400    | 1370       |          |            | *1330     | 1330       | 5.1 m |
|   | 4.0m                                 | kg |          |            |          |            |          |            |          |            | *1360    | *1360      |          |            | *1230     | 1060       | 5.8 m |
|   | 3.0m                                 | kg |          |            |          |            |          |            | *1660    | *1660      | *1490    | 1340       | 1250     | 980        | 1190      | 930        | 6.2 m |
|   | 2.0m                                 | kg |          |            |          |            | *3190    | 2810       | *2120    | 1810       | 1640     | 1280       | 1230     | 960        | 1110      | 860        | 6.4 m |
|   | 1.0m                                 | kg |          |            |          |            | 3410     | 2590       | 2200     | 1710       | 1580     | 1230       | 1200     | 930        | 1090      | 840        | 6.4 m |
|   | 0.0m                                 | kg |          |            |          |            | 3330     | 2510       | 2130     | 1640       | 1540     | 1190       | 1180     | 910        | 1120      | 860        | 6.2 m |
|   | -1.0m                                | kg | *2670    | *2670      | *3090    | *3090      | 3320     | 2510       | 2110     | 1610       | 1520     | 1170       |          |            | 1230      | 940        | 5.8 m |
|   | -2.0m                                | kg | *3990    | *3990      | *4950    | *4950      | 3350     | 2540       | 2120     | 1620       | 1540     | 1180       |          |            | 1460      | 1130       | 5.2 m |
| -3.0m   | kg                                   |    |          | *3940      | *3940    | *2550      | *2550    | *1690      | *1690    |            |          |            |          | *1560      | *1560     | 4.1 m      |       |

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    |            | 2.0 m    |            | 3.0 m    |            | 4.0 m    |            | 5.0 m    |            | 6.0 m    |            | 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<br>Arm: 1.7 m<br>Shoe Rubber: 450 mm<br>CWT: 1 610 kg<br>Dozer blade down | 5.0m                                 | kg |          |            |          |            |          |            | *1540    | *1540      |          |            |          |            | *1620     | *1620      | 4.6 m |
|  | 4.0m                                 | kg |          |            |          |            |          |            | *1600    | *1600      | *1560    | 1530       |          |            | *1580     | 1360       | 5.3 m |
|  | 3.0m                                 | kg |          |            |          |            | *2510    | *2510      | *1920    | *1920      | *1660    | 1500       |          |            | *1550     | 1180       | 5.8 m |
|  | 2.0m                                 | kg |          |            |          |            | *3740    | 3110       | *2360    | 2030       | *1850    | 1460       | *1610    | 1100       | *1600     | 1090       | 6.0 m |
|  | 1.0m                                 | kg |          |            |          |            |          |            | *2720    | 1940       | *2030    | 1410       | *1650    | 1080       | *1650     | 1070       | 6.0 m |
|  | 0.0m                                 | kg |          |            |          |            | *3810    | 2930       | *2850    | 1900       | *2100    | 1380       |          |            | *1690     | 1110       | 5.8 m |
|  | -1.0m                                | kg |          |            | *3570    | *3570      | *3890    | 2940       | *2730    | 1890       | *2000    | 1370       |          |            | *1730     | 1230       | 5.4 m |
|  | -2.0m                                | kg |          |            | *4870    | *4870      | *3240    | 2980       | *2310    | 1910       |          |            |          |            | *1740     | 1530       | 4.7 m |
|  | -3.0m                                | kg |          |            |          |            | *1930    | *1930      |          |            |          |            |          |            | *1540     | *1540      | 3.4 m |
| Boom: 3.55 m<br>Arm: 1.7 m<br>Shoe Rubber: 450 mm<br>CWT: 1 610 kg<br>Dozer blade up   | 5.0m                                 | kg |          |            |          |            |          |            | *1540    | *1540      |          |            |          |            | *1620     | *1620      | 4.6 m |
|  | 4.0m                                 | kg |          |            |          |            |          |            | *1600    | *1600      | *1560    | 1450       |          |            | *1580     | 1290       | 5.3 m |
|  | 3.0m                                 | kg |          |            |          |            | *2510    | *2510      | *1920    | *1920      | *1660    | 1420       |          |            | 1410      | 1120       | 5.8 m |
|  | 2.0m                                 | kg |          |            |          |            | *3740    | 2920       | *2360    | 1920       | 1740     | 1380       | 1320     | 1030       | 1310      | 1030       | 6.0 m |
|  | 1.0m                                 | kg |          |            |          |            |          |            | 2340     | 1830       | 1690     | 1330       | 1300     | 1020       | 1290      | 1010       | 6.0 m |
|  | 0.0m                                 | kg |          |            |          |            | 3580     |            | 2290     | 1780       | 1660     | 1300       |          |            | 1340      | 1050       | 5.8 m |
|  | -1.0m                                | kg |          |            | *3570    | *3570      | 3590     | 2750       | 2280     | 1770       | 1650     | 1290       |          |            | 1490      | 1160       | 5.4 m |
|  | -2.0m                                | kg |          |            | *4870    | *4870      | *3240    | 2790       | 2300     | 1800       |          |            |          |            | *1740     | 1440       | 4.7 m |
|  | -3.0m                                | kg |          |            |          |            | *1930    | *1930      |          |            |          |            |          |            | *1540     | *1540      | 3.4 m |
| Boom: 3.55 m<br>Arm: 2.1 m<br>Shoe Rubber: 450 mm<br>CWT: 1 610 kg<br>Dozer blade down | 6.0m                                 | kg |          |            |          |            |          |            |          |            |          |            |          |            | *1520     | *1520      | 4.0 m |
|  | 5.0m                                 | kg |          |            |          |            |          |            |          |            | *1400    | *1400      |          |            | *1330     | *1330      | 5.1 m |
|  | 4.0m                                 | kg |          |            |          |            |          |            |          |            | *1360    | *1360      |          |            | *1230     | 1190       | 5.8 m |
|  | 3.0m                                 | kg |          |            |          |            |          |            | *1660    | *1660      | *1490    | *1490      | *1410    | 1110       | *1210     | 1050       | 6.2 m |
|  | 2.0m                                 | kg |          |            |          |            | *3190    | 3170       | *2120    | 2040       | *1700    | 1450       | *1490    | 1080       | *1250     | 980        | 6.4 m |
|  | 1.0m                                 | kg |          |            |          |            | *3640    | 2950       | *2540    | 1930       | *1910    | 1390       | *1580    | 1060       | *1330     | 960        | 6.4 m |
|  | 0.0m                                 | kg |          |            |          |            | *3950    | 2870       | *2770    | 1860       | *2040    | 1350       | *1610    | 1040       | *1490     | 980        | 6.2 m |
|  | -1.0m                                | kg | *2670    | *2670      | *3090    | *3090      | *4040    | 2860       | *2750    | 1840       | *2020    | 1330       |          |            | *1570     | 1070       | 5.8 m |
|  | -2.0m                                | kg | *3990    | *3990      | *4950    | *4950      | *3540    | 2890       | *2470    | 1850       | *1750    | 1340       |          |            | *1600     | 1280       | 5.2 m |
| -3.0m  | kg                                   |    |          | *3940      | *3940    | *2550      | *2550    | *1690      | *1690    |            |          |            |          | *1560      | *1560     | 4.1 m      |       |
| Boom: 3.55 m<br>Arm: 2.1 m<br>Shoe Rubber: 450 mm<br>CWT: 1 610 kg<br>Dozer blade up   | 6.0m                                 | kg |          |            |          |            |          |            |          |            |          |            |          |            | *1520     | *1520      | 4.0 m |
|  | 5.0m                                 | kg |          |            |          |            |          |            |          |            | *1400    | *1400      |          |            | *1330     | *1330      | 5.1 m |
|  | 4.0m                                 | kg |          |            |          |            |          |            |          |            | *1360    | *1360      |          |            | *1230     | 1130       | 5.8 m |
|  | 3.0m                                 | kg |          |            |          |            |          |            | *1660    | *1660      | *1490    | 1420       | 1330     | 1050       | *1210     | 990        | 6.2 m |
|  | 2.0m                                 | kg |          |            |          |            | *3190    | 2980       | *2120    | 1920       | *1700    | 1370       | 1300     | 1020       | 1180      | 920        | 6.4 m |
|  | 1.0m                                 | kg |          |            |          |            | 3600     | 2760       | 2330     | 1820       | 1670     | 1310       | 1270     | 990        | 1160      | 900        | 6.4 m |
|  | 0.0m                                 | kg |          |            |          |            | 3520     | 2680       | 2260     | 1750       | 1630     | 1270       | 1250     | 970        | 1190      | 930        | 6.2 m |
|  | -1.0m                                | kg | *2670    | *2670      | *3090    | *3090      | 3510     | 2670       | 2230     | 1720       | 1610     | 1250       |          |            | 1300      | 1010       | 5.8 m |
|  | -2.0m                                | kg | *3990    | *3990      | *4950    | *4950      | *3540    | 2700       | 2240     | 1740       | 1630     | 1270       |          |            | 1550      | 1210       | 5.2 m |
| -3.0m  | kg                                   |    |          | *3940      | *3940    | *2550      | *2550    | *1690      | *1690    |            |          |            |          | *1560      | *1560     | 4.1 m      |       |

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, 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 counterweight             | • |
| 1 500 kg counterweight             | o |
| Under cover                        | • |
| Dozer blade                        | • |
| Dozer blade with floating function | o |

### Undercarriage

|                               |   |
|-------------------------------|---|
| Greased and sealed track link | • |
| 450 mm rubber track           | • |
| 450 mm, 600 mm steel track    | o |
| 450 mm rubber pad             | o |

### Digging equipment

|                                   |   |
|-----------------------------------|---|
| Boom: 3.55 m, Arm: 1.7 m          | • |
| Boom: 3.85 m 2-pieces, Arm: 2.1 m | o |
| Linkage with lifting eye          | • |
| Linkage                           | o |

### Service

|                            |   |
|----------------------------|---|
| Tool kit-daily maintenance | • |
| Tool kit, full scale       | o |
| Spare parts                | o |

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.



**V O L V O**