

Crawler Excavator RH plus



RH plus

Net engine power	87 kW - 118 hp
Operating weight (max.)	18 700 kg
Bucket capacity	from 0.25 to 0.93 m ³

SINCE 1876

O&K

INNOVATION AT WORK



Tier-2 engine

Net engine power (ISO 14396)87 kW/118 hp
 Net engine power (ISO 9249)82 kW/112 hp
 Engine speed2000 rpm
 Make and model.....CNH F4BE048E* D607 - 3.9 l
 Type....Diesel 4-stroke, direct injection, turbocharged, intercooler
 Number of cylinders.....4
 Bore x stroke102 x 120 mm
 Maximum torque at 1400 rpm.....450 Nm
Remote engine oil filter for easy replacement
Electronic engine rpm control, dial type.
Auto-idling selector returns engine to minimum rpm when all controls are in neutral position.
-15° outside temperature start as standard equipment (-25° optional)
 The engine complies with 97/68/CE STAGE 2.



Electrical system

Voltage24 V
 Alternator.....70 A
 Starter motor.....4 kW
 Standard maintenance-free batteries2
 Capacity.....100 Ah



Hydraulic system

New S.H.S. (Smart Hydraulic System) for perfect controllability and simultaneity of all movements
 New generation **A.I. (Artificial Intelligence)** on-board computer
A.P.S. (Automatic Priority System) device
Computerised pump delivery and main control valve actuation in relation to manipulators' stroke and working pressure demand
E.S.S.C. (Engine Speed Sensing Control device) for total installed hydraulic power exploitation
High definition E.T.U. (EASY TO USE) multi-function monitor incorporating:
 - Maintenance programme
 - Self Diagnosis System
 - Operating Data Storage (engine rpm/operating pressure and the like)

M.W.S. Mechatronic Work Selector:

- **Standard Mode (W)** - Standard operating mode
 - **Heavy/Mechatronic Mode (H/M)** - Maximum hydraulic power for top productivity. In this mode, the unit **"learns"** the type of operation being completed after 2 cycles and automatically selects maximum efficiency/speed and operating precision with the **A.P.S. (Automatic Priority System)** device
 - **Attachments Mode (A)** - Possibility of selecting and storing delivery for supplementary tooling from the operator compartment
 Continuous untimed insertion **Power Boost device**. Continuous insertion of the device when selected ensures maximum diggability and productivity in the toughest applications.
Standard double pump flow device
Pipe pressure discharge push button to facilitate tooling changeover without piping oil leakage.
Two-directional crusher/hammer system
 Main pumps:
 Two variable delivery pumps with electronic delivery adjustment.
 Pumps automatically revert to zero delivery with controls in neutral.

Maximum delivery2 x 131 l/min
 Piloting circuit gear type pump
 Maximum delivery.....22 l/min
 Maximum operating pressure:
 Equipment/swing/travel34.3 MPa
 Power boost37.8 MPa
 Hydraulic cylindersdouble effect
 - Lift (2) - bore x stroke.....110 x 1150 mm
 - Penetration (1) - bore x stroke125 x 1290 mm
 - Bucket (1) - bore x stroke105 x 1025 mm
 - Positioning (only triple articulation)
 bore x stroke.....135 x 1000 mm
 Independent hammer/positioning control.



Transmission

Typehydrostatic, two-speed
 Travel motors2, axial piston type, double displacement
 Brakesautomatic disc type
 Final drive.....oil bath, planetary reduction
 Gradeability (continuous).....70% (35°)
 Travel speeds:
 low.....from 0 to 3.0 km/h
 high.....from 0 to 5.0 km/h
 Automatic Down Shift device: to move travel motors to maximum displacement position with selector on "speed" position when greater traction is required.



Upperstructure swing

Swing motor.....axial piston type
 Swing brake.....automatic disc type
 Final drive.....oil bath, planetary reduction
 Slew ring.....oil bath type
 Swing speed.....12.7 rpm



Cab and controls

Transparent upper cab roof.
 Standard automatic conditioning.
 Controls.....piloted
 Two cross path pattern levers actuate all equipment movements and upperstructure swing.
 Two pedals with detachable hand levers control all track movements, counter-rotation included.
 A safety lever completely neutralises the piloting circuit



Undercarriage

X-frame undercarriage design
 Reinforced track chain with sealed bushings.

	RH plus	RH plus LC
Track rollers (each side)	7	7
Carrier rollers (each side)	2	2
Length of track on ground (mm)	3090	3280
Gauge (mm)	1990	2190
Shoes (mm)	500-600-700 800-900	500-600-700 800-900

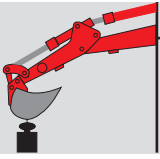


Capacities

Engine	Litres
Lube oil	15.0
Coolant	18.0
Fuel tank	250
Hydraulic reservoir	150

Lift capacity 2200 mm dipperstick

Unit: 1000 kg

	Reach									
	3.0 m		4.5 m		6.0 m		7.5 m		At max. reach	
	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side

RH plus - Triple articulation

Height											
+6.0m			4.1*	4.1*					4.3*	4.3*	5.8
+4.5m	6.1*	6.1*	4.4*	4.4*	4.2*	3.5			4.1	2.7	6.6
+3.0m	8.9*	8.9*	6.0*	4.9	4.5*	3.2			3.6	2.4	7.1
+1.5m	10.8*	7.7	7.0*	4.5	4.5*	3.0			3.4	2.3	7.2
0	10.0*	7.4	7.1	4.3	4.6	2.9			3.5	2.3	6.9
-1.5m	8.1*	7.9	6.9*	4.3	4.3	2.8			3.9	2.6	6.4
-3.0m	7.0*	7.0*	5.9	3.9					4.8*	3.0	5.3
-4.5m											

RH plus - One-piece boom

Height											
+6.0m					3.7*	3.3			3.2*	3.2*	6.1
+4.5m			4.7*	4.7*	4.1*	3.3			3.2*	2.5	7.0
+3.0m	9.1*	9.1*	5.9*	4.9	4.6*	3.2			3.4	2.2	7.4
+1.5m			6.8*	4.5	4.6	2.9			3.3	2.1	7.5
0	8.6	8.0	7.1	4.3	4.5	2.8			3.4	2.1	7.6
-1.5m	10.1	8.1	7.0	4.2	4.4	2.8			3.8	2.4	7.0
-3.5m	8.3*	8.2	6.0*	4.3					4.4*	3.1	5.7
-4.5m	5.1*	5.1*							4.0*	4.0*	3.9

RH plus LC - Triple articulation

Height											
+6.0m			4.1*	4.1*					4.3*	4.3*	5.8
+4.5m	6.1*	6.1*	4.4*	4.4*	4.2*	3.7			4.1	3.1	6.6
+3.0m	8.9*	8.9*	6.0*	5.3	4.5*	3.6			3.8	2.7	7.1
+1.5m	10.8*	8.9	7.0*	5.2	4.5*	3.4			3.6	2.6	7.2
0	10.0*	8.6	7.1	4.9	4.6	3.3			3.5*	2.6	6.9
-1.5m	8.1*	8.1*	6.9*	5.0	4.3	3.3			4.2	3.0	6.4
-3.5m	7.0*	7.0*	5.9	4.1					4.8*	3.0	5.3
-4.5m											

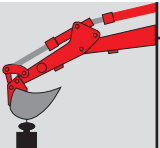
RH plus LC - One-piece boom

Height											
+6.0m					3.7*	3.7*			3.2*	3.2*	6.1
+4.5m			4.7*	4.7*	4.1*	3.7			3.2*	2.9	7.0
+3.0m	9.1*	9.1*	5.9*	5.5	4.6*	3.5			3.5*	2.5	7.4
+1.5m			6.8*	5.2	5.1*	3.3			3.6	2.4	7.5
0	8.6*	8.6*	7.2*	4.9	5.0	3.2			3.8	2.4	7.6
-1.5m	10.1*	9.4	7.0*	4.9	5.0	3.2			4.2	2.7	7.0
-3.5m	8.3*	8.3*	6.0*	4.9					4.4*	3.5	5.7
-4.5m	5.1	5.1							4.0*	4.0*	3.9

The table values refer to **ISO 10567** for excavator equipped with bucket. The indicated load is no more than 87% of hydraulic system lift capacity or 75% of static tipping load. Values marked with an asterisk are limited by the hydraulic system.

Lift capacity 2600 mm dipperstick

Unit: 1000 kg

	Reach									
	3.0 m		4.5 m		6.0 m		7.5 m		At max. reach	
	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side

RH plus - Triple articulation

Height											
+6.0m			3.8*	3.8*	2.9*	2.9*			2.2*	2.2*	6.2
+4.5m			4.2*	4.2*	3.2*	3.2*			2.1*	2.1*	7.0
+3.0m	7.8*	7.8*	4.9*	4.9*	3.5*	3.1			2.3*	2.3*	7.4
+1.5m	10.7*	8.0	6.3*	4.6	3.9*	3.0	2.7*	2.0	2.5*	2.0	7.6
0	10.5*	7.6	7.2*	4.4	4.5*	2.9			3.0*	2.1	7.3
-1.5m	9.0*	8.0	6.5*	4.4	4.6*	2.8			3.6*	2.3	6.8
-3.0m	6.2*	6.2*	4.6*	4.5					3.1*	3.0	5.8
-4.5m											

RH plus - One-piece boom

Height											
+6.0m					3.5*	3.4			2.2*	2.2*	6.6
+4.5m			4.3*	4.3*	3.8*	3.3			2.1*	2.1*	7.3
+3.0m	8.2*	8.2*	5.4*	4.9	4.3*	3.1	3.2*	2.2	2.3*	2.0	7.7
+1.5m	9.6*	8.3	6.5*	4.5	4.6	2.9	3.2*	2.1	2.5*	1.9	7.8
0	10.6*	8.0	7.0	4.3	4.5	2.8	3.2*	2.0	3.0*	2.0	7.6
-1.5m	10.7*	7.9	6.9	4.2	4.4	2.7			3.4	2.1	7.1
-3.0m	9.0*	8.1	6.3	4.2	4.4*	2.8			4.2*	2.7	6.1
-4.5m	6.2*	6.2*	4.2*	4.2*					4.1*	4.1*	4.6

RH plus LC - Triple articulation

Height											
+6.0m			3.8*	3.8*	2.9*	2.9*			2.2*	2.2*	6.2
+4.5m			4.2*	4.2*	3.2*	3.2*			2.1*	2.1*	7.0
+3.0m	7.8*	7.8*	4.9*	4.9*	3.5*	3.5*			2.3*	2.3*	7.4
+1.5m	10.7*	9.2	6.3*	5.3	3.9*	3.4	2.7*	2.3	2.5*	2.4	7.6
0	10.5*	8.9	7.2*	5.1	4.5*	3.3			3.0*	2.4	7.3
-1.5m	9.0*	9.0*	6.5*	5.0	4.6*	3.3			3.6*	2.7	6.8
-3.0m	6.2*	6.2*	4.6*	4.6*					3.1*	3.1*	5.8
-4.5m											

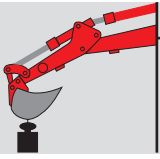
RH plus LC - One-piece boom

Height											
+6.0m					3.5*	3.5*			2.2*	2.2*	6.6
+4.5m			4.3*	4.3*	3.8*	3.7			2.1*	2.1*	7.3
+3.0m	8.2*	8.2*	5.4*	5.4*	4.3*	5.3	3.2*	2.4	2.3*	2.3*	7.7
+1.5m	9.6*	9.6*	6.5*	5.2	4.8*	3.3	3.2*	2.3	2.5*	2.5*	7.8
0	10.6*	10.6*	7.2*	4.9	5.0*	3.2	3.2*	2.3	3.0*	2.2	7.6
-1.5m	10.7*	9.3	7.1*	4.8	4.9	3.2			3.8	2.4	7.1
-3.0m	9.0*	9.0*	6.3*	4.9	4.4*	3.2			4.2*	3.0	6.1
-4.5m	6.2*	6.2*	4.2*	4.2*					4.1*	4.1*	4.6

The table values refer to **ISO 10567** for excavator equipped with bucket. The indicated load is no more than 87% of hydraulic system lift capacity or 75% of static tipping load. Values marked with an asterisk are limited by the hydraulic system.

Lift capacity 3100 mm dipperstick

Unit: 1000 kg

	Reach									
	3.0 m		4.5 m		6.0 m		7.5 m		At max. reach	
	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side

RH plus - Triple articulation

Height											
+6.0m			3.5*	3.5*	2.8*	2.8*			1.6*	1.6*	6.8
+4.5m			3.8*	3.8*	2.9*	2.9*	1.8*	1.8*	1.5*	1.5*	7.5
+3.0m	6.5*	6.5*	4.5*	4.5*	3.3*	3.2	2.5*	2.1	1.6*	1.6*	8.0
+1.5m	10.2*	8.1	5.7*	4.6	3.7*	3.0	2.7*	2.0	1.7*	1.7*	8.1
0	10.7*	7.5	7.2	4.3	4.3*	2.9	2.8*	2.0	2.0*	1.8	7.8
-1.5m	9.8*	7.9	6.8*	4.3	4.6	2.8			2.6*	2.2	7.3
-3.0m	7.4*	7.4*	5.3*	4.5	3.5*	2.8			4.0*	3.0	6.4
-4.5m											

RH plus - One-piece boom

Height											
+6.0m					3.2*	3.2*			1.5*	1.5*	7.2
+4.5					3.5*	3.3	2.6*	2.2	1.5*	1.5*	7.8
+3.0m	7.0*	7.0*	4.9*	4.9*	4.0*	3.1	3.3	2.1	1.6*	1.6*	8.2
+1.5m	10.0*	8.5	6.1*	4.6	4.6*	2.9	3.2	2.0	1.7*	1.7	8.4
0	9.3*	7.9	6.9*	4.3	4.4	2.8	3.1	1.9	2.0*	1.7	8.2
-1.5m	10.9*	7.8	6.8	4.1	4.3	2.7	3.1	1.9	2.5*	1.8	7.7
-3.0m	9.6*	7.9	6.5*	4.1	4.3	2.7			3.6	2.2	6.8
-4.5m	7.3*	7.3*	5.0*	4.2					3.8*	3.2	5.4

RH plus LC - Triple articulation

Height											
+6.0m			3.5*	3.5*	2.8*	2.8*			1.6*	1.6*	6.8
+4.5m			3.8*	3.8*	2.9*	2.9*	1.8*	1.8*	1.5*	1.5*	7.5
+3.0m	6.5*	6.5*	4.5*	4.5*	3.3*	3.3*	2.5*	2.4	1.6*	1.6*	8.0
+1.5m	10.2*	9.4	5.7*	5.3	3.7*	3.4	2.7*	2.4	1.7*	1.7*	8.1
0	10.7*	8.8	7.3*	5.0	4.3*	3.3	2.8*	2.3	2.0*	2.0*	7.8
-1.5m	9.8*	9.3	6.8*	5.0	4.7*	3.2			2.6*	2.4	7.3
-3.0m	7.4*	7.4*	5.3*	5.2	3.5*	3.2			4.0*	3.1	6.4
-4.5m											

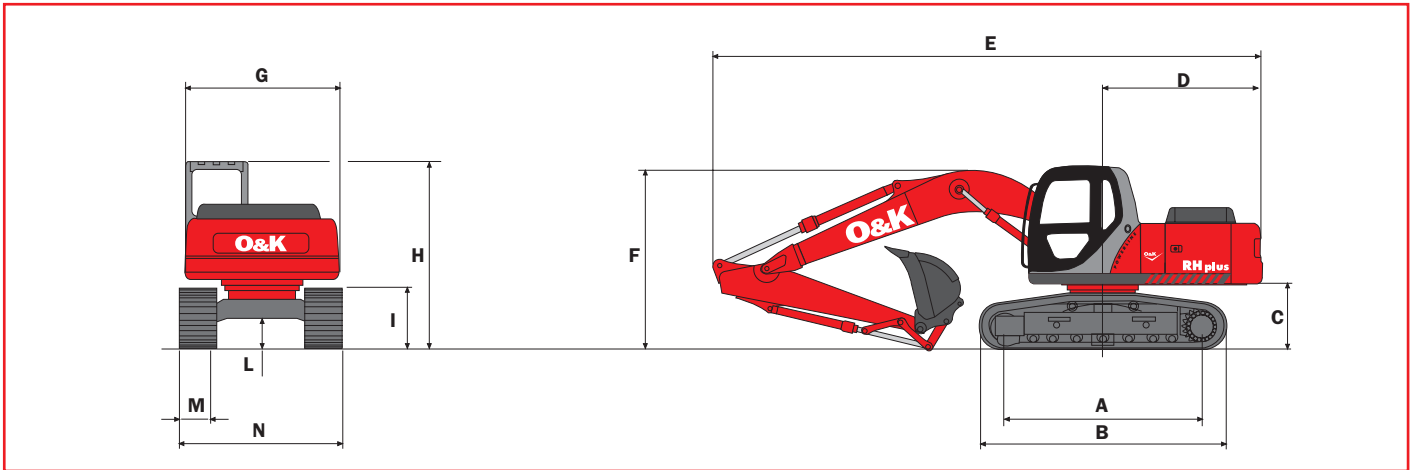
RH plus LC - One-piece boom

Height											
+6.0m					3.2*	3.2*			1.5*	1.5*	7.2
+4.5m					3.5*	3.5*	2.6*	2.5	1.5*	1.5*	7.8
+3.0m	7.0*	7.0*	4.9*	4.9*	4.0*	3.6	3.5*	2.4	1.6*	1.6*	8.2
+1.5m	10.0*	9.9	6.1*	5.2	4.6*	3.4	3.6	2.3	1.7*	1.7*	8.4
0	9.3*	9.3	6.9*	4.9	4.9	3.2	3.5	2.2	2.0*	2.0	8.2
-1.5m	10.9*	9.2	7.1*	4.8	4.8	3.1	3.4	2.2	2.5*	2.2	7.7
-3.0m	9.6*	9.3	6.5*	4.7	4.7*	3.1			3.6*	2.6	6.8
-4.5m	7.3*	7.3*	5.0*	4.9					3.8*	3.7	5.4

The table values refer to **ISO 10567** for excavator equipped with bucket. The indicated load is no more than 87% of hydraulic system lift capacity or 75% of static tipping load. Values marked with an asterisk are limited by the hydraulic system.

One-piece boom

Dimensions (mm) - Operating weight

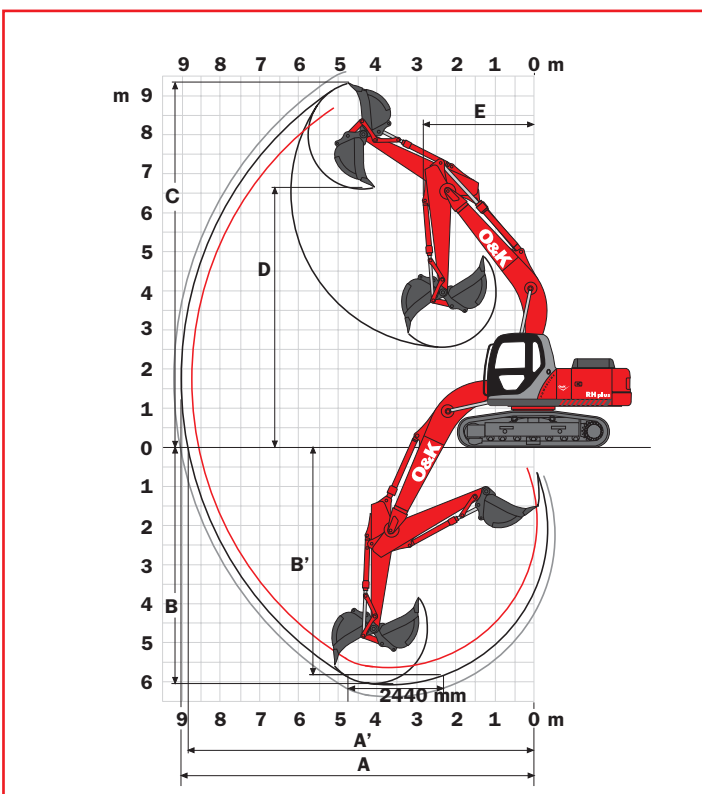


Versions	A	B	C	D	E(*)	F(*)	G	H	I	L
RH plus	3090	3895	1055	2510	(1) 8710	(1) 2980	2490	2960	955	490
					(2) 8660	(2) 2860				
					(3) 8670	(3) 2940				
RH plus LC	3280	4085	1055	2510	(1) 8710	(1) 2980	2490	2960	955	490
					(2) 8660	(2) 2860				
					(3) 8670	(3) 2940				

(*) Dipperstick: (1) 2200 mm, (2) 2600 mm, (3) 3100 mm

		RH plus					RH plus LC				
M - Shoe width	mm	500	600	700	800	900	500	600	700	800	900
N - Maximum width	mm	2490	2590	2690	2790	2890	2690	2790	2890	2990	3090
Operating weight	kg	17250	17500	17700	17950	18200	17550	17800	18000	18250	18500
Ground pressure	bar	0.57	0.48	0.42	0.37	0.33	0.55	0.46	0.40	0.36	0.32

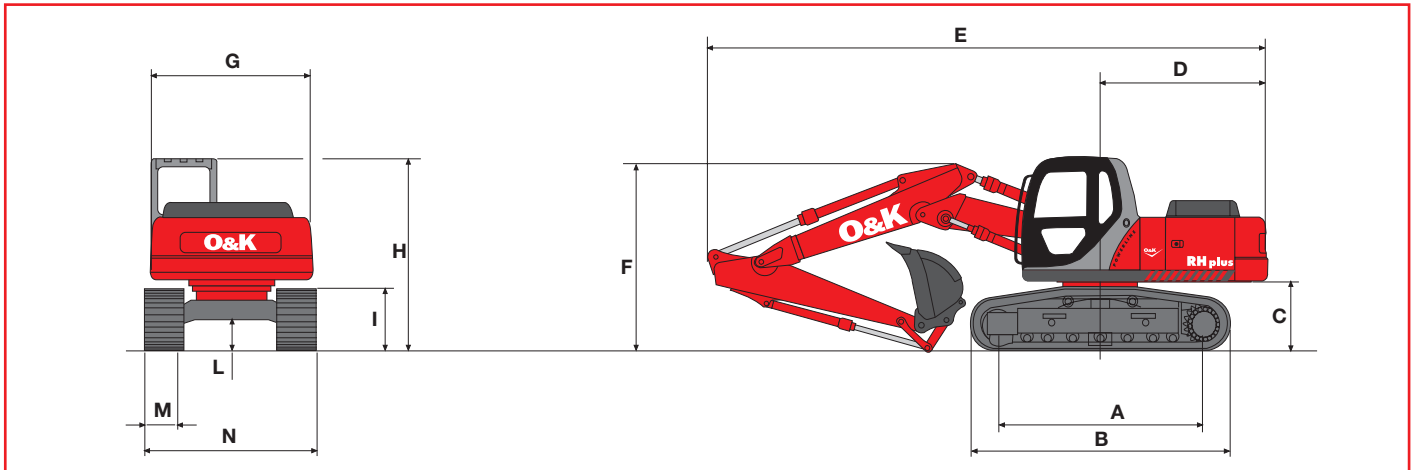
Digging performance



Dipperstick	mm	2200	2600	3100
A	mm	8675	9025	9520
A'	mm	8487	8845	9350
B	mm	5640	6040	6540
B'	mm	5395	5814	6355
C	mm	9165	9335	9695
D	mm	6490	6670	7010
E	mm	2295	2835	2890
Breakout force:				
Bucket	daN	11500	11500	11500
Dipperstick	daN	10400	8800	7400
With "Power Boost":				
Bucket	daN	12500	12500	12500
Dipperstick	daN	11350	9600	8050

Triple articulation

Dimensions (mm) - Operating weight

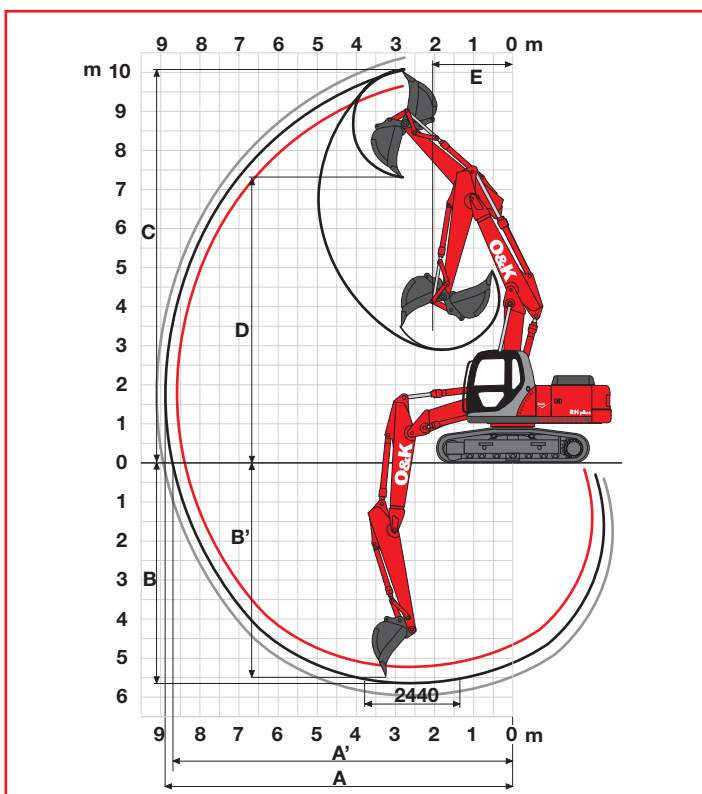


Versions	A	B	C	D	E(*)	F(*)	G	H	I	L
RH plus	3090	3895	1055	2510	(1) 8560	(1) 3000	2490	2960	955	490
					(2) 8510	(2) 2880				
					(3) 8510	(3) 2980				
RH plus LC	3280	4085	1055	2510	(1) 8560	(1) 3000	2490	2960	955	490
					(2) 8510	(2) 2880				
					(3) 8510	(3) 2980				

(*) Dipperstick: (1) 2200 mm, (2) 2600 mm, (3) 3100 mm

		RH plus					RH plus LC				
M - Shoe width	mm	500	600	700	800	900	500	600	700	800	900
N - Maximum width	mm	2490	2590	2690	2790	2890	2690	2790	2890	2990	3090
Operating weight	kg	17450	17700	17950	18200	18400	17750	18000	18250	18500	18700
Ground pressure	bar	0.58	0.49	0.42	0.38	0.34	0.55	0.47	0.41	0.36	0.32

Digging performance



Dipperstick	mm	2200	2600	3100
A	mm	8535	8885	9385
A'	mm	8345	8705	9210
B	mm	5265	5650	6155
B'	mm	5140	5530	6045
C	mm	9085	10070	10500
D	mm	7060	7325	7755
E	mm	2350	2120	2180
Breakout force:				
Bucket	daN	11500	11500	11500
Dipperstick	daN	10400	8800	7400
With "Power Boost":				
Bucket	daN	12500	12500	12500
Dipperstick	daN	11350	9600	8050

Standard equipment

Auto-idling device
 Batteries, maintenance free
 Cell phone holder with recharge socket
 Centralised boom lubrication
 Cyclone pre-filter
 Double pump flow
 Engine rpm electronic control
 Foot pedal or lever travel control
 Front seal hydraulic piping and connections
 Fuel transfer electrical pump
 Grease bath swing ring
 HD chains
 Horn
 Hydraulically suspended cab with transparent opening roof and automatic air conditioning system
 Main control valve with anti-drift valves

Multi-function electronic instrument panel (E.T.S.)
 M.W.S. (Mechatronic Work Selector)
 One-piece boom or triple articulation
 Power Boost device
 Radio set
 Seat, heated mechanical suspended
 Shoes:
 Standard version - 500 mm
 LC version - 500 mm
 S.H.S. (Smart Hydraulic System)
 Swing and travel motors with automatic disc type brakes
 Tier-2 Diesel engine
 Tool kit
 Two-speed intermittent operation windshield wiper
 Two travel speeds with Automatic Down Shift device

Optional equipment

Anti-theft device
 Air suspended heated operator seat
 Boom anti-drop valves on lift cylinders
 Boom anti-drop valves on dipperstick cylinder
 2200 mm dipperstick
 2600mm dipperstick
 3100mm dipperstick
 Hammer/crusher predisposition
 Hammer piping on booms
 Load handling (including all anti-drop valves and hook)

Mechanical quick coupler
 Multi-purpose, rock and heavy duty buckets with boom/bucket adjustment device
 Northern country equipment
 Piping on booms for supplementary low delivery function
 Shoes:
 STD and LC version - 600 - 700 - 800 - 900mm
 Supplementary cab lights
 Supplementary low delivery hydraulic function predisposition for grass cutter/grapple rotation bucket

Note: Standard and optional equipment may vary by country. Consult your O&K dealer for specific details.

Buckets

SAE Capacity / m ³	CECE Capacity / m ³	Width / mm	Weight / kg
0.25	0.23	500	375
0.45	0.41	750	472
0.54	0.48	850	510
0.67	0.61	1000	560
0.84	0.74	1200	610
0.93	0.81	1300	664



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Specifications shown in this brochure may vary from country to country according to local requirements and regulations. Photos may depict standard or optional equipment according to local market specifications. Models and specifications shown may be subject to change by the manufacturer without prior notification and without incurring any obligation resulting from such modifications. **Printed in Italy 05/04**



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