

STANDARD EQUIPMENT

ISO Standard cabin
All-weather steel cab with 360° visibility
Safety glass windows
Rise-up type windshield wiper
Sliding fold-in front window
Sliding side window(LH)
Lockable door
Hot & cool box
Storage compartment & Ashtray
Transparent cabin roof-cover
Radio / USB player
12 volt power outlet (24V DC to 12V DC converter)
Handsfree mobile phone system with USB
Sun visor
Computer aided power optimization (New CAPO) system
3-power mode, 2-work mode, User mode
Auto deceleration & one-touch deceleration system
Auto warm-up system
Auto overheat prevention system
Automatic climate control
Air conditioner & heater
Defroster
Self-diagnostics system
Starting Aid (air grid heater) for cold weather
Centralized monitoring
LCD display
Engine speed or Trip meter/Accel.
Clock
Gauges
Fuel level gauge
Engine coolant temperature gauge
Hyd. oil temperature gauge
Warnings
Check engine
Communication error
Low battery
Air cleaner clogging
Indicators
Power max
Fuel warmer
Auto idle
Door and cab locks, one key
Two outside rearview mirrors
Mechanical suspension seat with heater
Pilot-operated slidable joystick
Cabin ROPS (ISO 12117-2)
ROPS (Roll Over Protective Structure)
Four front working lights
Electric horn
Batteries (2 x 12V x 100 AH)
Battery master switch
Removable clean-out screen for oil cooler
Automatic swing brake
Removable reservoir tank
Fuel pre-filter with fuel warmer
Boom holding system
Arm holding system
Track shoes (600mm, 24")
Track rail guard
Accumulator for lowering work equipment
Electric transducer
Lower frame under cover (Normal)
Viscous fan clutch

OPTIONAL EQUIPMENT

Fuel filler pump (50 L/min)
Beacon lamp
Safety lock valve for boom cylinder with overload warning device
Safety lock valve for arm cylinder
Single-acting piping kit (breaker, etc.)
Double-acting piping kit (clamshell, etc.)
Quick coupler
Travel alarm
Boom
5.68 m, 18' 8"
Arms
2.00 m, 6' 7"
2.40 m, 7' 10"
2.92 m, 9' 7"
Cabin lights
Cabin front window rain guard
Track shoes
700mm, 28"
800mm, 32"
900mm, 36"
Lower frame under cover (Additional)
Long crawler lower frame
Long crawler & Front dozer lower frame
Tool kit
Operator suit
Rearview camera
Pattern change valve (2 patterns)
Hi-mate (Remote Management System)
Cabin FOPS/FOG (ISO/DIS 10262)-Level II
FOPS (Falling Object Protective Structure)
FOG (Falling Object Guard)
Air compressor

\* Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to International standards.

\* The photos may include attachments and optional equipment that are not available in your area.

\* Materials and specifications are subject to change without advance notice.

\* All imperial measurements rounded off to the nearest pound or inch.

PLEASE CONTACT

 **HYUNDAI CONSTRUCTION EQUIPMENT**

**Head Office (Sales office)**  
First tower, 55, Bundang-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea



\*Photo may include optional equipment.



# Pride at Work

Hyundai Construction Equipment strives to build state-of-the-art earthmoving equipment to give every operator maximum performance, more precision, versatile machine preferences, and proven quality. Take pride in your work with Hyundai!

## Robex 235LCR-9

### Machine Walk-Around

#### Engine Technology

Proven and reliable, fuel efficient HYUNDAI HE6.7 engine  
Electronically controlled for optimum fuel-to-air ratio and clean, efficient combustion  
Low noise / Auto engine warm up feature / Anti-restart feature

#### Hydraulic System Improvements

New patented hydraulic control for improved controllability / Improved control valve design for added efficiency and smoother operation / New auto boom and swing priority system for optimum speed / New auto power boost feature for additional power when needed / Improved arm-in and boom-down flow regeneration system for added speed and efficiency

#### Pump Compartment

Industry-leading, powerful, reliable Kawasaki designed, variable volume in-line axial piston pumps  
New compact solenoid block equipped with 4 - solenoid v / v, 1 EPPR valve, 1 check valve, accumulator and line filter controls  
safety lock, power boost, 2 speed travel, arm-in regeneration, boom priority

#### Enhanced Operator Cab

**Improved visibility**  
Enlarged cab with improved visibility / See-through upper skylight for visibility and ventilation  
Larger right-side glass, now one piece, for better right visibility  
Safety glass windows on all sides - less expensive than (polycarbonate) and won't scratch or fade  
Closeable sunshade for operator convenience / Reduced front window seam for improved operator view

**Improved Cab Construction**  
New steel tube construction for added operator safety, protection and durability  
New window open/close mechanism designed with cable and spring lift assist and single latch release

**Improved Suspension Seat / Console Assembly**  
Ergonomic joysticks with auxiliary control buttons for attachment use. Now with new sleek styling  
Adjustable heated suspension seat, control console and arm rests

**Advanced 7" Color Cluster**  
New Color LCD Display with easy-to-read digital gauges for hydraulic oil temperature, water temperature, and fuel. A simplified design makes adjustment and diagnostics easier. Also, new enhanced features such as rear-view camera are integrated into monitor.  
3 power modes : (P) Power, (S) Standard, (E) Economy, 2 work modes : Dig & Attachment, (U) User mode for operator preference  
Enhanced self-diagnostic features with GPS download capability  
One pump flow or two pump flow for optional attachment now selectable through the cluster / New anti-theft system with password capability  
Boom speed and arm regeneration are selectable through the monitor.  
Auto power boost is now available - selectable (on/off) through the monitor.  
Powerful air conditioning and heat with auto climate control, 20% more heat and air output than 7A series!  
RMS (Remote Management System) works through GPS/satellite technology to ultimately provide better customer service and support.

#### Undercarriage

Sealed track chain (urethane seals) / Standard track rail guard / Comfortable bolt-on steps  
Large upper roller cut-outs for debris clean-out / Tapered side frames for debris clean-out / Grease-type track tensioner

\*Photo may include optional equipment.



# Preference

Operating the R235LCR-9 is unique to every operator. Operators can fully customize their work environment and operating preferences to fit their individual needs.



\*Photo may include optional equipment.



## Wide Cabin with Excellent Visibility

The newly designed cabin was conceived for more space, a wider field of view and operator comfort. Special attention was given to a clear, open and convenient interior with plenty of visibility on the machine surroundings and the job at hand. This well balanced combination of precision aspects put the operator in the perfect position to work safely and securely.

## Operator Comfort

In the 9 series cabin you can easily adjust the seat, console and armrest settings to best suit your personal operating preferences. Seat and console position can be set together and independent from each other. Additional creature comforts include the fully automatic high-capacity airconditioning system and the radio / USB player.



## Reduced Stress

Work is stressful enough. Your work environment should be stress free. Hyundai's 9 series provides improved cab amenities, additional space and a comfortable seat to minimize stress to the operator. A powerful climate control system provides the operator with optimum air temperature. An advanced audio system with USB player, AM/FM stereo and, plus remotely located controls is perfect for listening to music favorites. Operators can even talk on the phone with the hands-free cell phone feature.



## Operator - Friendly Cluster

The advanced new cluster with 7 inch wide color LCD screen and toggle switch allows the operator to select his personal machine preferences. Power and work mode selection, self diagnostics, rear-view camera, maintenance check lists, start-up machine security, and video functions were integrated into the cluster to make the machine more versatile and the operator more productive.





# Precision

Innovative hydraulic system technologies make the 9 series excavator fast, smooth and easy to control.



\*Photo may include optional equipment.

## Computer Aided Power

The engine horsepower and hydraulic horsepower together in unison through the advanced CAPO(Computer Aided Power Optimization) system, provide the precise flow needed for the job at hand. Operators can set their own preferences for boom or swing priority, power mode selection and optional work tools at the touch of a button. The CAPO system also provides complete self diagnostic features and digital gauges for important information like hydraulic oil temperature, water temperature and fuel level. This system interfaces with multiple sensors placed throughout the hydraulic system as well as the electronically controlled engine to provide the optimum level of engine power and hydraulic flow.

### Power Mode

P (Power Max) mode maximizes machine speed and power for mass production. S (Standard) mode provides a reduced, fixed rpm for optimum performance and improved fuel economy. For maximum fuel savings and improved control, E (Economy) mode provides precise flow and engine power based on load demand. Three unique power modes provide the operator with custom power, speed and fuel economy.

### Work Mode

The work mode allows the operator to select single flow attachments like a hydraulic breaker or bi-directional flow attachments like a crusher. Flow settings unique to each attachment can be programmed from within the cluster.

### User Mode

Some jobs require more precise machine settings. Using the versatile U (User) mode, the operator can customize engine speed, pump output, idle speed and other machine settings for the job at hand.

## Improved Hydraulic System



To achieve optimum precision, Hyundai redesigned the hydraulic system to provide the operator with super fine touch and improved controllability. Improved pump flow control reduces flow when controls are not being used to minimize fuel consumption. Improved spool valves in the control valve are engineered to provide more precise flow to each function with less effort. Improved hydraulic valves, precision-designed variable volume piston pumps, fine-touch pilot controls, and enhanced travel functions make any operator running a 9 series look like a smooth operator. Newly improved features include arm-in and boom-down flow regeneration, improved control valve technology and innovative auto boom and swing priority for optimal performance in any application.

## Auto Boom-swing Priority

This smart function automatically and continuously looks for the ideal hydraulic flow balance for the boom and swing functions of the machine. The advanced CAPO system monitors the hydraulic system and adjusts its settings to maximize performance and productivity.





# Performance

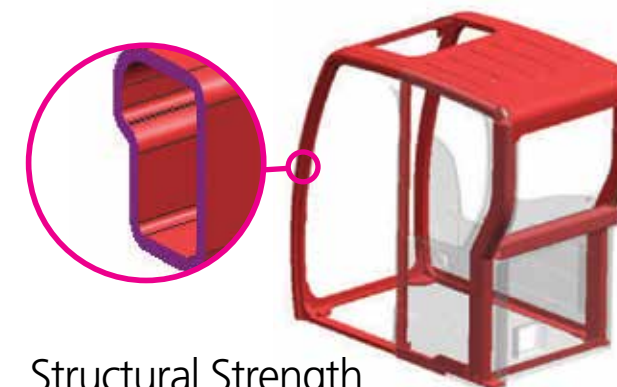
9 series is designed for maximum performance to keep the operator working productively.



\*Photo may include optional equipment.

## Track Rail Guard & Adjusters

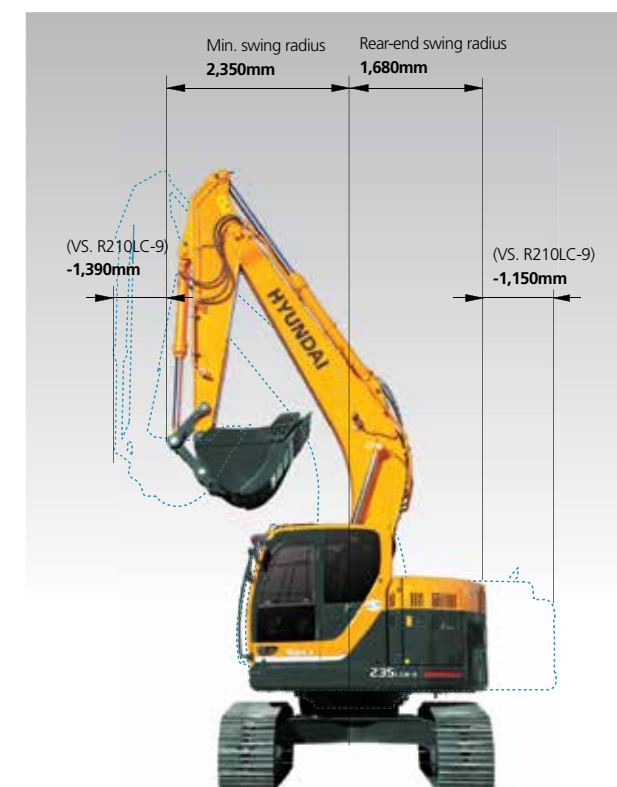
Durable track rail guards keep track links in place. Track adjustment is made easy with standard grease cylinder track adjusters and shock absorbing springs.



## Structural Strength

The 9 series cabin structure has been fitted with stronger but slimmer tubing for more safety and improved visibility. Lowstress, high strength steel is integrally welded to form a stronger, more durable upper and lower frame. Structural integrity was tested by way of FEM (Finite Elements Method) analysis and long-term durability tests.

The ROPS(Roll Over Protective Structure) cab can be equipped to enhance operator safety.



## Excellent Performance in Confined Areas

R235LCR-9's short (1,680mm) tail swing radius allows the operator work in confined areas like close to buildings on roadways, and in urban areas. This Compact radius design provides easy and efficient operation in any limited space work environment.

## Eco-friendly HYUNDAI HE 6.7 Engine

HYUNDAI HE 6.7 engine combines advanced electronic controls and a self-diagnostic system with reliable performance.

The combination of a high pressure common rail system and an advanced in-cylinder combustion technology results in increased power, improved transient response and reduced fuel consumption. HYUNDAI HE 6.7 engine complies with current emissions standards including EPA Tier3 and EU Stage III-A.

## The Definition of Progress

HYUNDAI HE 6.7 engine combines full authority electronic controls with the reliable performance.

The electronics with the HYUNDAI HE 6.7 have been proven with our high-horse power products-working in the harshest, most demanding environments-search as dusty, non-stop mining operations while meeting emissions regulations worldwide. HYUNDAI HE 6.7 features 24 valve designed with centered injectors and symmetrical piston bowl. The combination of improved air flow and evenly dispersed fuel results in increased power, improved transient reponse and reduced fuel consumption.





# Profitability

9 series is designed to maximize profitability through improved efficiencies, enhanced service features and longer life components.



\*Photo may include optional equipment.

## Fuel Efficiency

9 series excavators are engineered to be extremely fuel efficient. New innovations like two-stage auto decel system and the new economy mode help to conserve fuel and reduce the impact on the environment.



### Hi-MATE (Remote Management System)

Hi-MATE, Hyundai's proprietary remote management system, provides operators and dealer service personnel access to vital service and diagnostic information on the machine from any computer with internet access. Users can pinpoint machine location using digital mapping and set machine work boundaries, reducing the need for multiple service calls. Hi-MATE saves time and money for the owner and dealer by promoting preventative maintenance and reducing machine downtime.



## Easy Access

Ground-line access to filters, lube fittings, fuses, machine computer components and wide open compartments makes service more convenient on the 9S Series.



## Long-Life Components

9S series excavators were designed with bushings designed for long-life lube intervals (250 hrs) & polymer shims (wear resistant, noise reducing), long-life hydraulic filters (1,000hrs), long-life hydraulic oil (5,000hrs), more efficient cooling systems and integrated preheating systems which extend service intervals, minimize operating costs and reduce machine down time.



Specifications

ENGINE

MODEL			HYUNDAI HE 6.7
Type			Water cooled, 4 cycle Diesel, 6-cylinders in line, direct injection, turbocharged charger and air cooled
Rated flywheel horsepower	SAE	J1995 (gross)	151HP (113kW)/ 1,900 rpm
		J1349 (net)	143HP (107kW)/ 1,900 rpm
	DIN	6271/1 (gross)	153PS (113kW)/ 1,900 rpm
		6271/1 (net)	145PS (107kW)/ 1,900 rpm
Max. torque			63kgf·m (456lbf·ft)/1,500rpm
Bore X stroke			107mm X 124mm (4.2" X 4.9")
Piston displacement			6,700cc (409 in³)
Batteries			2 X 12V X 100AH
Starting motor			24V, 4.5kW
Alternator			24V, 70Amp

HYDRAULIC SYSTEM

MAIN PUMP	
Type	Variable displacement tandem axis piston pumps
Rated flow	2 X 222 L/min (58.6 US gpm/48.8 UK gpm)
Sub-pump for pilot circuit	Gear pump

Cross-sensing and fuel saving pump system

HYDRAULIC MOTORS	
Travel	Two speed axial pistons motor with brake valve and parking brake
Swing	Axial piston motor with automatic brake

RELIEF VALVE SETTING	
Implement circuits	350 kgf/cm2 (4,980 psi)
Travel	350 kgf/cm2 (4,980 psi)
Power boost (boom, arm, bucket)	380 kgf/cm² (5,410 psi)
Swing circuit	285 kgf/cm² (4,050 psi)
Pilot circuit	40 kgf/cm² (570 psi)
Service valve	installed

HYDRAULIC CYLINDERS	
No. of cylinder bore X stroke	Boom: 2-120 X 1,290 mm (4.7" X 50.8")
	Arm: 1-140 X 1,510 mm (5.5" X 59.4")
	Bucket: 1-120 X 1,055 mm (4.7" X 41.5")

DRIVES & BRAKES

Drive method	Fully hydrostatic type
Drive motor	Axial piston motor, in-shoe design
Reduction system	Planetary reduction gear
Max. drawbar pull	21,100 kgf (46,517 lbf)
Max. travel speed(high) / (low)	5.3 km/hr (3.3mph) / 3.4 km/hr (2.1mph)
Gradeability	30° (58 %)
Parking brake	Multi wet disc

CONTROL

Pilot pressure operated joysticks and pedals with detachable lever provide almost effortless and fatigueless operation.

Pilot control	Two joysticks with one safety lever (LH): Swing and arm, (RH): Boom and bucket (ISO)
Engine throttle	Electric, Dial type

SWING SYSTEM

Swing motor	Fixed displacement axial pistons motor
Swing reduction	Planetary gear reduction
Swing bearing lubrication	Grease-bathed
Swing brake (option)	Multi wet disc
Swing speed	10.7 rpm

COOLANT & LUBRICANT CAPACITY

Refilling	liter	US gal	UK gal
Fuel tank	320	84.5	70.4
Engine coolant	35	9.2	7.7
Engine oil	24	6.3	5.3
Swing device-gear oil	5	1.3	1.1
Final drive(each)-gear oil	5.8	2	1
Hydraulic system(including tank)	275	72.6	60.5
Hydraulic tank	160	42.3	35.2

UNDERCARRIAGE

The X-leg type center frame is integrally welded with reinforced box-section track frames. The undercarriage includes lubricated rollers, idlers, track adjusters with shock absorbing springs and sprockets, and a track chain with double or triple grouser shoes.

Center frame	X - leg type
Track frame	Pentagonal box type
No. of shoes on each side	49 EA
No. of carrier roller on each side	2 EA
No. of track roller on each side	9 EA
No. of rail guard on each side	2 EA

OPERATING WEIGHT (APPROXIMATE)

Operating weight, including 5,680mm (18’ 8”) boom, 2,920mm (9’ 7”) arm, SAE heaped 0.80m3 (1.05 yd3) bucket, lubricant, coolant, full fuel tank, full hydraulic tank, and all standard equipments.

MAJOR COMPONENT WEIGHT	
Upperstructure	5,600 kg (12,350 lb)
Boom(with arm cylinder)	1,950 kg (4,300 lb)
Arm(with bucket cylinder)	1,095 kg (2,410 lb)







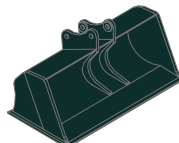
OPERATING WEIGHT			
Shoes		Operating weight	Ground pressure
Type	Width mm(in)	kg(lb)	kgf/cm2(psi)
Triple grouser	600 (24")	23,800 (52,470)	0.51 (7.25)
	700 (28")	24,060 (53,040)	0.44 (6.26)
	800 (32")	24,320 (53,620)	0.39 (5.55)
	900 (36")	24,580 (54,190)	0.35 (4.98)

AIR CONDITIONING SYSTEM

The air condition system for the machine contains the fluorinated greenhouse gas with global warming potential of R134a. (Global Warming Potential : 1430)  
The system hold 0.75kg refrigerant consisting of a CO2 equivalent 1.07kg metric tonne.  
For more information, Please refer to the manual.

BUCKETS

All buckets are welded with high-strength steel.

								
SAE heaped m <sup>3</sup> (yd <sup>3</sup> )	0.51 (0.67)	0.80 (1.05) 0.87 (1.14) 0.92 (1.20)	1.10 (1.44) 1.20 (1.57)	1.34 (1.75)	◆0.74 (0.97) ◆0.90 (1.18) ◆1.05 (1.37)	◎0.87 (1.14)  ▣0.75 (0.98)		
Capacity m <sup>3</sup> (yd <sup>3</sup> )		Width mm (in)		Weight kg (lb)	Recommendation mm (ft-in)			
SAE heaped	CECE heaped	Without sidecutters	With sidecutters		5,680 (18' 8") Boom			
					2,000 (6' 7") Arm	2,400 (7' 10")	2,920 (9' 7") Arm	
◆	0.51 (0.67)	0.45 (0.59)	700 (27.6)	820 (32.3)	570 (1,260)	●	●	●
◆	0.80 (1.05)	0.70 (0.92)	1,000 (39.4)	1,120 (44.1)	700 (1,540)	●	●	●
◆	0.87 (1.14)	0.75 (0.98)	1,090 (42.9)	1,210 (47.6)	740 (1,630)	●	●	■
◆	0.92 (1.20)	0.80 (1.05)	1,150 (45.3)	1,270 (50.0)	770 (1,700)	●	●	■
◆	1.10 (1.44)	0.96 (1.26)	1,320 (52.0)	1,440 (56.7)	830 (1,830)	●	■	▲
◆	1.20 (1.57)	1.00 (1.31)	1,400 (55.1)	1,520 (59.8)	850 (1,870)	■	▲	-
◆	1.34 (1.75)	1.15 (1.50)	1,550 (61.0)	1,670 (65.7)	920 (2,030)	▲	▲	-
◆	0.74 (0.97)	0.65 (0.85)	985 (38.8)	-	770 (1,700)	●	●	●
◆	0.90 (1.18)	0.80 (1.05)	1,070 (42.1)	-	810 (1,790)	●	●	■
◆	1.05 (1.37)	0.92 (1.20)	1,290 (50.8)	-	890 (1,960)	●	■	▲
◎	0.87 (1.14)	0.75 (0.98)	1,140 (44.9)	-	900 (1,980)	●	●	■
▣	0.75 (0.98)	0.65 (0.85)	1,790 (70.5)	-	880 (1,940)	●	●	■
◆ Heavy duty bucket ◎ Rock-Heavy duty bucket ▣ Slope finishing buck						●: Applicable for materials with density of 2,000 kg /m <sup>3</sup> (3,370 lb/ yd <sup>3</sup> ) or less ■: Applicable for materials with density of 1,600 kg /m <sup>3</sup> (2,700 lb/ yd <sup>3</sup> ) or less ▲: Applicable for materials with density of 1,100 kg /m <sup>3</sup> (1,850 lb/ yd <sup>3</sup> ) or less		

ATTACHMENT

Booms and arms are welded with a low-stress, full-box section design. 5.68m Boom and 2.0m, 2.4m, 2.92m Arms are available.

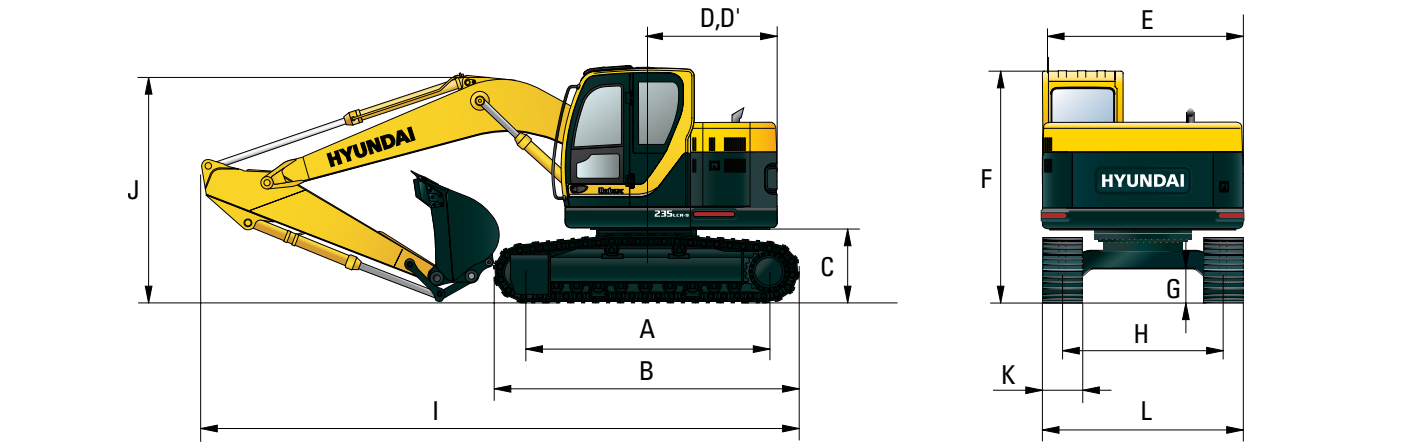
DIGGING FORCE

Boom	Length	mm (ft-in)	5,680 (18' 8")			Remarks
	Weight	kg (lb)	1,950 (4,300)			
Arm	Length	mm (ft-in)	2,000 (6' 7")	2,400 (7' 10")	2,920 (9' 7")	Remarks
	Weight	kg (lb)	975 (2,150)	1,045 (2,300)	1,095 (2,410)	
Bucket digging force	SAE	kN	133.4 [144.8]	133.4 [144.8]	133.4 [144.8]	[ ]: Power Boost
		kgf	13,600 [14,770]	13,600 [14,770]	13,600 [14,770]	
		lbf	29,980 [32,550]	29,980 [32,550]	29,980 [32,550]	
	ISO	kN	152.0 [165.0]	152.0 [165.0]	152.0 [165.0]	
		kgf	15,500 [16,830]	15,500 [16,830]	15,500 [16,830]	
		lbf	34,170 [37,100]	34,170 [37,100]	34,170 [37,100]	
Arm crowd force	SAE	kN	144.2 [156.5]	119.6 [129.9]	102.0 [110.7]	
		kgf	14,700 [15,960]	12,200 [13,250]	10,400 [11,290]	
		lbf	32,410 [35,190]	26,900 [29,210]	22,930 [24,900]	
	ISO	kN	151.0 [164.0]	125.5 [136.3]	106.9 [116.1]	
		kgf	15,400 [16,720]	12,800 [13,900]	10,900 [11830]	
		lbf	33,950 [36,860]	28,220 [30,640]	24,030 [26,090]	

Note: Boom weight includes arm cylinder, piping, and pin  
Arm weight includes bucket cylinder, linkage, and pin

Dimensions & Working Range

R235LCR-9 DIMENSIONS

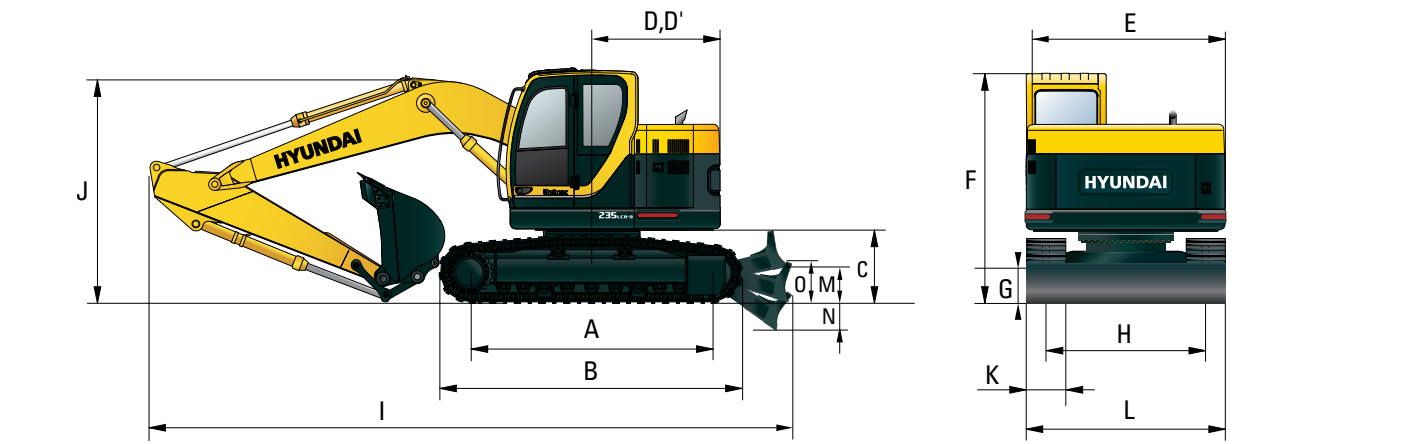


A	Tumbler distance	3,650 (11' 12")
B	Overall length of crawler	4,440 (14' 7")
C	Ground clearance of counterweight	1,060 (3' 6")
D	Tail swing radius	1,680 (5' 6")
D'	Rear-end length	1,680 (5' 6")
E	Overall width of upperstructure	2,980 (9' 9")
F	Overall height of cab	2,950 (9' 8")
G	Min. ground clearance	480 (1' 7")
H	Track gauge	2,390 (7' 10")

Boom length	5,680 (18' 8")			
Arm length	2,000 (6' 7")	2,400 (7' 10")	2,920 (9' 7")	
I Overall length	9,040 (29' 8")	8,950 (29' 4")	8,910 (29' 3")	
J Overall height of boom	3,200 (10' 6")	3,100 (10' 2")	3,020 (9' 11")	
K Track shoe width	600 (24")	700 (28")	800 (32")	900 (36")
L Overall width	2,990 (9' 10")	3,090 (10' 2")	3,190 (10' 6")	3,290 (10' 10")

Unit : mm (ft-in)

R235LCR-9 (DOZER TYPE) DIMENSIONS

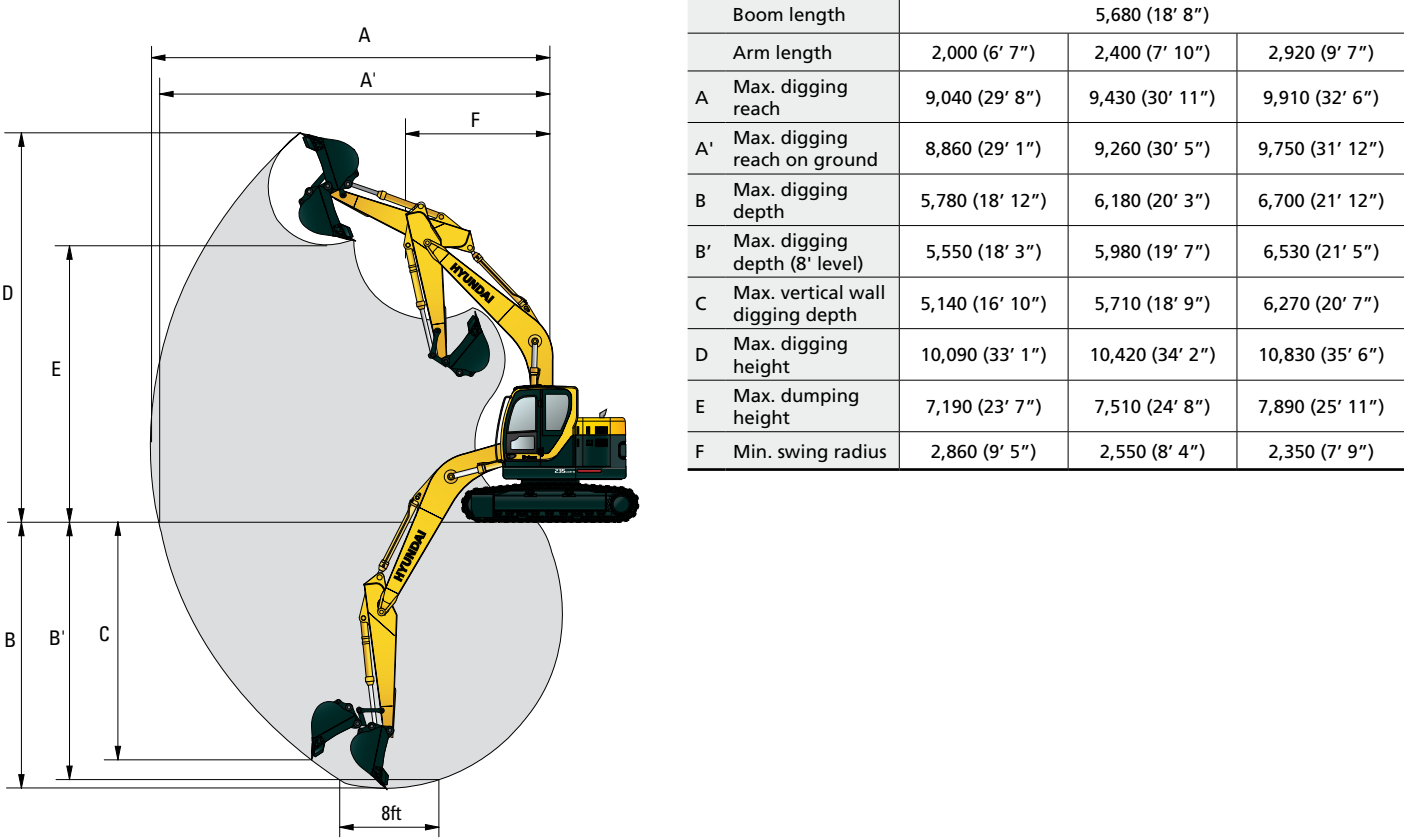


A	Tumbler distance	3,650 (11' 12")
B	Overall length of crawler	4,440 (14' 7")
C	Ground clearance of counterweight	1,060 (3' 6")
D	Tail swing radius	1,680 (5' 6")
D'	Rear-end length	1,680 (5' 6")
E	Overall width of upperstructure	2,980 (9' 9")
F	Overall height of cab	2,950 (9' 8")
G	Min. ground clearance	480 (1' 7")
H	Track gauge	2,390 (7' 10")
M	Ground clearance of blade up	575 (1' 11")
N	Depth of blade down	390 (1' 3")
O	Height of blade	710 (2' 4")

Boom length		5,680 (18' 8")			
Arm length		2,000 (6' 7")	2,400 (7' 10")	Unit: mm (ft-in) 2,920 (9' 7")	
I	Overall length	10,020 (32' 10")	9,930 (32' 7")	9,890 (32' 5")	
J	Overall height of boom	3,200 (10' 6")	3,100 (10' 2")	3,020 (9' 11")	
K	Track shoe width	600 (24")	700 (28")	800 (32")	900 (36")
L	Overall width	2,990 (9' 10")	3,090 (10' 2")	3,190 (10' 6")	3,290 (10' 10")

Unit : mm (ft-in)

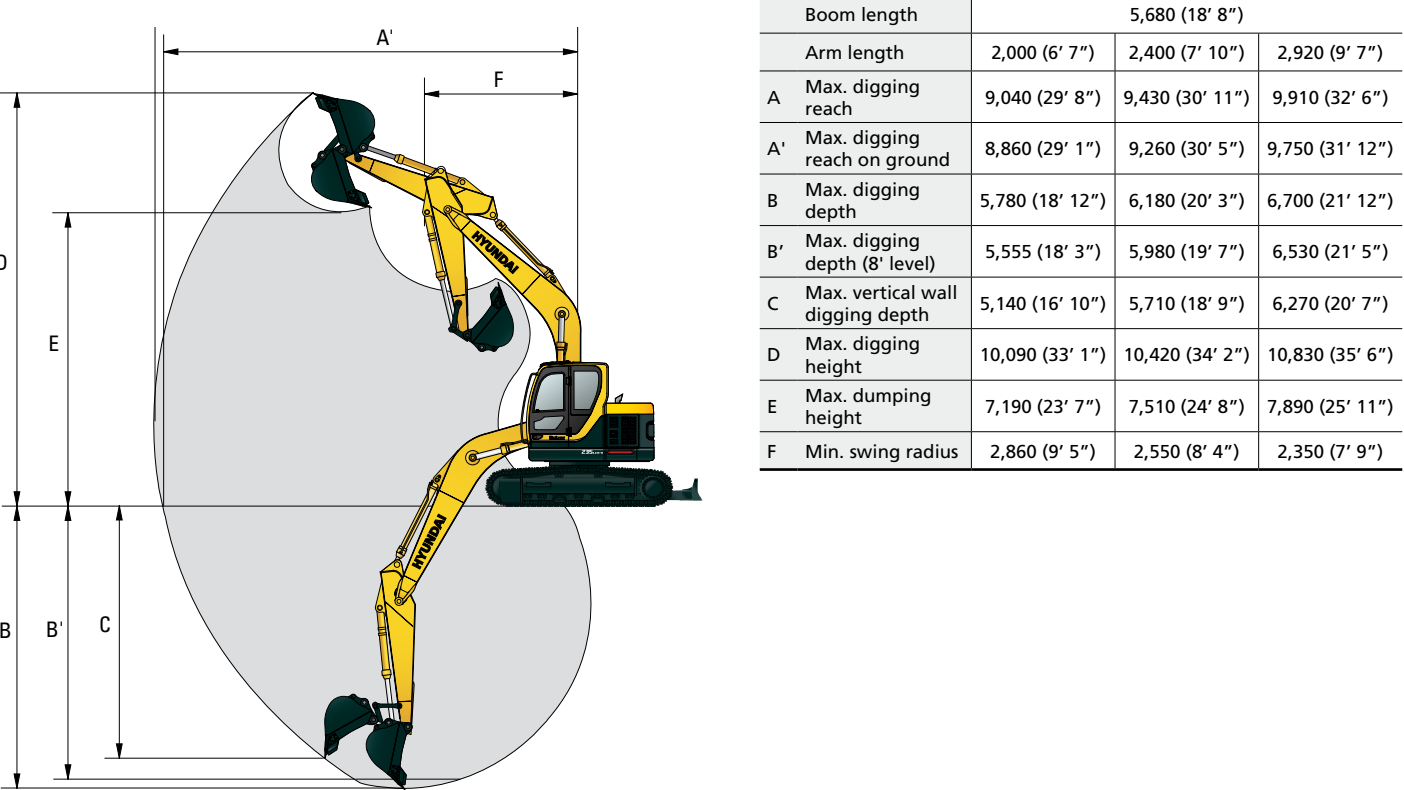
R235LCR-9 WORKING RANGE



Boom length	5,680 (18' 8")			
Arm length	2,000 (6' 7")	2,400 (7' 10")	2,920 (9' 7")	
A	Max. digging reach	9,040 (29' 8")	9,430 (30' 11")	9,910 (32' 6")
A'	Max. digging reach on ground	8,860 (29' 1")	9,260 (30' 5")	9,750 (31' 12")
B	Max. digging depth	5,780 (18' 12")	6,180 (20' 3")	6,700 (21' 12")
B'	Max. digging depth (8' level)	5,550 (18' 3")	5,980 (19' 7")	6,530 (21' 5")
C	Max. vertical wall digging depth	5,140 (16' 10")	5,710 (18' 9")	6,270 (20' 7")
D	Max. digging height	10,090 (33' 1")	10,420 (34' 2")	10,830 (35' 6")
E	Max. dumping height	7,190 (23' 7")	7,510 (24' 8")	7,890 (25' 11")
F	Min. swing radius	2,860 (9' 5")	2,550 (8' 4")	2,350 (7' 9")

Unit : mm (ft-in)

R235LCR-9 (DOZER TYPE) WORKING RANGE



Boom length	5,680 (18' 8")			
Arm length	2,000 (6' 7")	2,400 (7' 10")	2,920 (9' 7")	
A	Max. digging reach	9,040 (29' 8")	9,430 (30' 11")	9,910 (32' 6")
A'	Max. digging reach on ground	8,860 (29' 1")	9,260 (30' 5")	9,750 (31' 12")
B	Max. digging depth	5,780 (18' 12")	6,180 (20' 3")	6,700 (21' 12")
B'	Max. digging depth (8' level)	5,555 (18' 3")	5,980 (19' 7")	6,530 (21' 5")
C	Max. vertical wall digging depth	5,140 (16' 10")	5,710 (18' 9")	6,270 (20' 7")
D	Max. digging height	10,090 (33' 1")	10,420 (34' 2")	10,830 (35' 6")
E	Max. dumping height	7,190 (23' 7")	7,510 (24' 8")	7,890 (25' 11")
F	Min. swing radius	2,860 (9' 5")	2,550 (8' 4")	2,350 (7' 9")











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





Lifting Capacity

R235LCR-9











Boom : 5.68 m (18' 8") / Arm : 2.0 m (6' 7") / Bucket : 0.80 m³ (1.05yd³) SAE heaped / Shoe : 600mm(24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
10.5 m	kg									*4210	*4210	4.63
(35 ft)	lb									*9280	*9280	(15.2)
9.0 m	kg									*4630	*4630	4.48
(30 ft)	lb									*10210	*10210	(14.7)
7.5 m	kg			*4820	*4820					*4150	*4150	6.56
(25 ft)	lb			*10630	*10630					*9150	*9150	(21.5)
6.0 m	kg			*4980	*4980	*4590	*4590			*4050	3060	7.70
(20 ft)	lb			*10980	*10980	*10120	*10120			*8930	6750	(25.3)
4.5 m	kg	*8350	*8350	*5930	*5930	*4910	4570			*4050	2560	8.36
(15 ft)	lb	*18410	*18410	*13070	*13070	*10820	10080			*8930	5640	(27.4)
3.0m	kg			*7310	6760	*5490	4310	*4620	2960	*4080	2320	8.67
(10 ft)	lb			*16120	14900	*12100	9500	*10190	6530	*8990	5110	(28.4)
1.5 m	kg			*8410	6250	*6040	4070	*4820	2860	*4130	2270	8.66
(5 ft)	lb			*18540	13780	*13320	8970	*10630	6310	*9110	5000	(28.4)
Ground	kg			*8720	6020	*6300	3910			*4150	2390	8.36
Line	lb			*19220	13270	*13890	8620			*9150	5270	(27.4)
-1.5 m	kg	*11480	*11480	*8320	5980	*6110	3860			*4070	2760	7.69
(-5 ft)	lb	*25310	*25310	*18340	13180	*13470	8510			*8970	6080	(25.2)
-3.0 m	kg	*9710	*9710	*7190	6090	*5140	3950			*3660	3660	6.55
(-10 ft)	lb	*21410	*21410	*15850	13430	*11330	8710			*8070	8070	(21.5)

Boom : 5.68 m (18' 8") / Arm : 2.40 m (7' 10") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Reach
												m (ft)
9.0 m	kg											*4110
(30 ft)	lb											*9060
7.5 m	kg					*4280	*4280					*3820
(25 ft)	lb					*9440	*9440					*8420
6.0 m	kg					*4500	*4500	*4220	*4220			*3760
(20 ft)	lb					*9920	*9920	*9300	*9300			*8290
4.5 m	kg			*7270	*7270	*5450	*5450	*4600	*4600	*3950	3080	*3770
(15 ft)	lb			*16030	*16030	*12020	*12020	*10140	*10140	*8710	6790	*8310
3.0m	kg			*11380	*11380	*6850	*6850	*5230	4350	*4420	2980	*3820
(10 ft)	lb			*25090	*25090	*15100	*15100	*11530	9590	*9740	6570	*8420
1.5 m	kg					*8100	6310	*5840	4080	*4690	2850	3850
(5 ft)	lb					*17860	13910	*12870	8990	*10340	6280	8490
Ground	kg			*9120	*9120	*8640	6000	*6210	3890	*4820	2750	*3930
Line	lb			*20110	*20110	*19050	13230	*13690	8580	*10630	6060	*8660
1.5 m	kg	*9720	*9720	*12220	11860	*8450	5920	*6160	3810	*3900	2490	*3900
(-5 ft)	lb	*21430	*21430	*26940	26150	*18630	13050	*13580	8400	*8600	5490	*8600
3.0 m	kg	*14180	*14180	*10550	*10550	*7550	5990	*5480	3850	*3650	3190	*3650
(10 ft)	lb	*31260	*31260	*23260	*23260	*16640	13210	*12080	8490	*8050	7030	*8050
4.5 m	kg			*7670	*7670	*5530	*5530					
(15 ft)	lb			*16910	*16910	*12190	*12190					

Boom : 5.68 m (18' 8") / Arm : 2.92 m (9' 7") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser











Load point height m (ft)		Load radius								At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Reach
												m (ft)
9.0 m	kg					*2970	*2970					*3630
(30 ft)	lb					*6550	*6550					*8000
7.5 m	kg							*3310	*3310			*3460
(25 ft)	lb							*7300	*7300			*7630
6.0 m	kg							*3780	*3780			*3430
(20 ft)	lb							*8330	*8330			*7560
4.5 m	kg					*4810	*4810	*4190	*4190	*3860	3140	*3460
(15 ft)	lb					*10600	*10600	*9240	*9240	*8510	6920	*7630
3.0m	kg			*9730	*9730	*6240	*6240	*4860	4410	*4150	3000	*3520
(10 ft)	lb			*21450	*21450	*13760	*13760	*10710	9720	*9150	6610	*7760
1.5 m	kg			*9500	*9500	*7650	6410	*5560	4110	*4490	2850	3520
(5 ft)	lb			*20940	*20940	*16870	14130	*12260	9060	*9900	6280	7760
Ground	kg			*9890	*9890	*8460	6010	*6050	3880	*4720	2730	*3650
Line	lb			*21800	*21800	*18650	13250	*13340	8550	*10410	6020	*8050
1.5 m	kg	*8800	*8800	*12860	11680	*8530	5850	*6160	3760	*4690	2660	*3670
(-5 ft)	lb	*19400	*19400	*28350	25750	*18810	12900	*13580	8290	*10340	5860	*8090
3.0 m	kg	*12230	*12230	*11440	*11440	*7900	5870	*5740	3750			*3560
(10 ft)	lb	*26960	*26960	*25220	*25220	*17420	12940	*12650	8270			*7850
4.5 m	kg			*8990	*8990	*6360	6050					*2980
(15 ft)	lb			*19820	*19820	*14020	13340					*6570

1. Lifting capacity is based on SAE J1097, ISO 10567.
2. Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The load point is a hook located on the back of the bucket.
4. (\*) indicates the load limited by hydraulic capacity.











Lifting Capacity

R235LCR-9 (DOZER TYPE)

Boom : 5.68 m (18' 8") / Arm : 2.0 m (6' 7") / Bucket : 0.80 m³ (1.05yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Down

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
10.5 m	kg									*4210	*4210	4.63
(35 ft)	lb									*9280	*9280	(15.2)
9.0 m	kg									*4630	*4630	4.48
(30 ft)	lb									*10210	*10210	(14.7)
7.5 m	kg			*4820	*4820					*4150	*4150	6.56
(25 ft)	lb			*10630	*10630					*9150	*9150	(21.5)
6.0 m	kg			*4980	*4980	*4590	*4590			*4050	3460	7.70
(20 ft)	lb			*10980	*10980	*10120	*10120			*8930	7630	(25.3)
4.5 m	kg	*8350	*8350	*5930	*5930	*4910	*4910			*4050	2920	8.36
(15 ft)	lb	*18410	*18410	*13070	*13070	*10820	*10820			*8930	6440	(27.4)
3.0m	kg			*7310	*7310	*5490	4890	*4620	3380	*4080	2670	8.67
(10 ft)	lb			*16120	*16120	*12100	10780	*10190	7450	*8990	5890	(28.4)
1.5 m	kg			*8410	7130	*6040	4640	*4820	3280	*4130	2620	8.66
(5 ft)	lb			*18540	15720	*13320	10230	*10630	7230	*9110	5780	(28.4)
Ground	kg			*8720	6900	*6300	4480			*4150	2760	8.36
Line	lb			*19220	15210	*13890	9880			*9150	6080	(27.4)
-1.5 m	kg	*11480	*11480	*8320	6860	*6110	4430			*4070	3160	7.69
(-5 ft)	lb	*25310	*25310	*18340	15120	*13470	9770			*8970	6970	(25.2)
-3.0 m	kg	*9710	*9710	*7190	6980	*5140	4520			*3660	*3660	6.55
(-10 ft)	lb	*21410	*21410	*15850	15390	*11330	9960			*8070	*8070	(21.5)

Boom : 5.68 m (18' 8") / Arm : 2.0 m (6' 7") / Bucket : 0.80 m³ (1.05yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Up













Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
10.5 m	kg									*4210	*4210	4.63
(35 ft)	lb									*9280	*9280	(15.2)
9.0 m	kg									*4630	*4630	4.48
(30 ft)	lb									*10210	*10210	(14.7)
7.5 m	kg			*4820	*4820					*4150	*4150	6.56
(25 ft)	lb			*10630	*10630					*9150	*9150	(21.5)
6.0 m	kg			*4980	*4980	*4590	*4590			*4050	3250	7.70
(20 ft)	lb			*10980	*10980	*10120	*10120			*8930	7170	(25.3)
4.5 m	kg	*8350	*8350	*5930	*5930	*4910	4830			*4050	2730	8.36
(15 ft)	lb	*18410	*18410	*13070	*13070	*10820	10650			*8930	6020	(27.4)
3.0 m	kg			*7310	7140	*5490	4570	*4620	3160	*4080	2490	8.67
(10 ft)	lb			*16120	15740	*12100	10080	*10190	6970	*8990	5490	(28.4)
1.5 m	kg			*8410	6630	*6040	4330	*4820	3050	4060	2440	8.66
(5 ft)	lb			*18540	14620	*13320	9550	*10630	6720	8950	5380	(28.4)
Ground	kg			*8720	6400	*6300	4170			*4150	2570	8.36
Line	lb			*19220	14110	*13890	9190			*9150	5670	(27.4)
-1.5 m	kg	*11480	*11480	*8320	6360	*6110	4120			*4070	2950	7.69
(-5 ft)	lb	*25310	*25310	*18340	14020	*13470	9080			*8970	6500	(25.2)
-3.0 m	kg	*9710	*9710	*7190	6470	*5140	4210			*3660	*3660	6.55
(-10 ft)	lb	*21410	*21410	*15850	14260	*11330	9280			*8070	*8070	(21.5)















Lifting Capacity

R235LCR-9 (DOZER TYPE)

Boom : 5.68 m (18' 8") / Arm : 2.40 m (7' 10") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Down

Load point height m (ft)		Load radius										At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
9.0 m	kg											*4110	*4110	5.25
(30 ft)	lb											*9060	*9060	(17.2)
7.5 m	kg					*4280	*4280					*3820	*3820	7.07
(25 ft)	lb					*9440	*9440					*8420	*8420	(23.2)
6.0 m	kg					*4500	*4500	*4220	*4220			*3760	3160	8.12
(20 ft)	lb					*9920	*9920	*9300	*9300			*8290	6970	(26.6)
4.5 m	kg			*7270	*7270	*5450	*5450	*4600	*4600	*3950	3510	*3770	2700	8.74
(15 ft)	lb			*16030	16030	*12020	*12020	*10140	*10140	*8710	7740	*8310	5950	(28.7)
3.0m	kg			*11380	11380	*6850	*6850	*5230	4920	*4420	3400	*3820	2480	9.04
(10 ft)	lb			*25090	25090	*15100	*15100	*11530	10850	*9740	7500	*8420	5470	(29.7)
1.5 m	kg					*8100	7190	*5840	4650	*4690	3270	*3880	2420	9.03
(5 ft)	lb					*17860	15850	*12870	10250	*10340	7210	*8550	5340	(29.6)
Ground	kg			*9120	*9120	*8640	6880	*6210	4460	*4820	3170	*3930	2530	8.74
Line	lb			*20110	*20110	*19050	15170	*13690	9830	*10630	6990	*8660	5580	(28.7)
-1.5 m	kg	*9720	*9720	*12220	*12220	*8450	6790	*6160	4370			*3900	2870	8.12
(-5 ft)	lb	*21430	21430	*26940	*26940	*18630	14970	*13580	9630			*8600	6330	(26.6)
-3.0 m	kg	*14180	14180	*10550	*10550	*7550	6870	*5480	4420			*3650	3650	7.06
(-10 ft)	lb	*31260	31260	*23260	*23260	*16640	15150	*12080	9740			*8050	8050	(23.2)
-4.5 m	kg			*7670	*7670	*5530	*5530							
(-15 ft)	lb			*16910	*16910	*12190	*12190							

Boom : 5.68 m (18' 8") / Arm : 2.40 m (7' 10") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Up













Load point height m (ft)		Load radius										At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
9.0 m	kg											*4110	*4110	5.25
(30 ft)	lb											*9060	*9060	(17.2)
7.5 m	kg					*4280	*4280					*3820	*3820	7.07
(25 ft)	lb					*9440	*9440					*8420	*8420	(23.2)
6.0 m	kg					*4500	*4500	*4220	*4220			*3760	2960	8.12
(20 ft)	lb					*9920	*9920	*9300	*9300			*8290	6530	(26.6)
4.5 m	kg			*7270	*7270	*5450	*5450	*4600	*4600	3280		*3770	2520	8.74
(15 ft)	lb			*16030	*16030	*12020	*12020	*10140	*10140	7230		*8310	5560	(28.7)
3.0m	kg			*11380	*11380	*6850	*6850	*5230	4610	*4420	3170	*3820	2300	9.04
(10 ft)	lb			*25090	*25090	*15100	*15100	*11530	10160	*9740	6990	*8420	5070	(29.7)
1.5 m	kg					*8100	6690	*5840	4340	*4690	3050	3780	2250	9.03
(5 ft)	lb					*17860	14750	*12870	9570	*10340	6720	8330	4960	(29.6)
Ground	kg			*11380	*11380	*8640	6380	*6210	4150	*4820	2950	*3930	2360	8.74
Line	lb			*25090	*25090	*19050	14070	*13690	9150	*10630	6500	*8660	5200	(28.7)
-1.5 m	kg	*9720	*9720	*12220	*12220	*8450	6300	*6160	4070			*3900	2670	8.12
(-5 ft)	lb	*21430	*21430	*26940	*26940	*18630	13890	*13580	8970			*8600	5890	(26.6)
-3.0 m	kg	*14180	*14180	*10550	*10550	*7550	6370	*5480	4110			*3650	3410	7.06
(-10 ft)	lb	*31260	*31260	*23260	*23260	*16640	14040	*12080	9060			*8050	7520	(23.2)
-4.5 m	kg			*7670	*7670	*5530	*5530							
(-15 ft)	lb			*16910	*16910	*12190	*12190							

1. Lifting capacity is based on SAE J1097, ISO 10567.
2. Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.













3. The load point is a hook located on the back of the bucket.
4. (\*) indicates the load limited by hydraulic capacity.

R235LCR-9 (DOZER TYPE)

Boom : 5.68 m (18' 8") / Arm : 2.92 m (9' 7") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Down

Load point height m (ft)		Load radius										At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
9.0 m	kg					*2970	*2970					*3630	*3630	6.12
(30 ft)	lb					*6550	*6550					*8000	*8000	(20.1)
7.5 m	kg							*3310	*3310			*3460	*3460	7.70
(25 ft)	lb							*7300	*7300			*7630	*7630	(25.3)
6.0 m	kg							*3780	*3780			*3430	2830	8.66
(20 ft)	lb							*8330	*8330			*7560	6240	(28.4)
4.5 m	kg					*4810	*4810	*4190	*4190	*3860	3560	*3460	2440	9.24
(15 ft)	lb					*10600	*10600	*9240	*9240	*8510	7850	*7630	5380	(30.3)
3.0m	kg			*9730	*9730	*6240	*6240	*4860	*4860	*4150	3420	*3520	2250	9.52
(10 ft)	lb			*21450	*21450	*13760	*13760	*10710	*10710	*9150	7540	*7760	4960	(31.2)
1.5 m	kg			*9500	*9500	*7650	7300	*5560	4680	*4490	3270	*3590	2200	9.52
(5 ft)	lb			*20940	*20940	*16870	16090	*12260	10320	*9900	7210	*7910	4850	(31.2)
Ground	kg			*9890	*9890	*8460	6890	*6050	4450	*4720	3140	*3650	2280	9.24
Line	lb			*21800	*21800	*18650	15190	*13340	9810	*10410	6920	*8050	5030	(30.3)
-1.5 m	kg	*8800	*8800	*12860	*12860	*8530	6730	*6160	4320	*4690	3080	*3670	2540	8.66
(-5 ft)	lb	*19400	*19400	*28350	*28350	*18810	14840	*13580	9520	*10340	6790	*8090	5600	(28.4)
-3.0 m	kg	*12230	*12230	*11440	*11440	*7900	6750	*5740	4320			*3560	3120	7.69
(-10 ft)	lb	*26960	*26960	*25220	*25220	*17420	14880	*12650	9520			*7850	6880	(25.2)
-4.5 m	kg			*8990	*8990	*6360	*6360					*2980	*2980	6.11
(-15 ft)	lb			*19820	*19820	*14020	*14020					*6570	*6570	(20.0)

Boom : 5.68 m (18' 8") / Arm : 2.92 m (9' 7") / Bucket : 0.80 m³ (1.05 yd³) SAE heaped / Shoe : 600mm(24") triple grouser, Dozer blade Up

Load point height m (ft)		Load radius										At max. reach		
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
														m (ft)
9.0 m (30 ft)	kg lb					*2970 *6550	*2970 *6550					*3630 *8000	*3630 *8000	6.12 (20.1)
7.5 m (25 ft)	kg lb							*3310 *7300	*3310 *7300			*3460 *7630	3370 7430	7.70 (25.3)
6.0 m (20 ft)	kg lb							*3780 *8330	*3780 *8330			*3430 *7560	2650 5840	8.66 (28.4)
4.5 m (15 ft)	kg lb					*4810 *10600	*4810 *10600	*4190 *9240	*4190 *9240	*3860 *8510	3330 7340	*3460 *7630	2270 5000	9.24 (30.3)
3.0m (10 ft)	kg lb			*9730 *21450	*9730 *21450	*6240 *13760	*6240 *13760	*4860 *10710	4670 10300	*4150 *9150	3200 7050	3510 7740	2090 4610	9.52 (31.2)
1.5 m (5 ft)	kg lb			*9500 *20940	*9500 *20940	*7650 *16870	6790 14970	*5560 *12260	4370 9630	*4490 *9900	3050 6720	3450 7610	2040 4500	9.52 (31.2)
Ground Line	kg lb			*9890 *21800	*9890 *21800	*8460 *18650	6390 14090	*6050 *13340	4140 9130	*4720 *10410	2920 6440	3590 7910	2120 4670	9.24 (30.3)
-1.5 m (-5 ft)	kg lb	*8800 *19400	*8800 *19400	*12860 *28350	12390 27320	*8530 *18810	6240 13760	*6160 *13580	4020 8860	*4690 *10340	2860 6310	*3670 *8090	2360 5200	8.66 (28.4)
-3.0 m (-10 ft)	kg lb	*12230 *26960	*12230 *26960	*11440 *25220	*11440 *25220	*7900 *17420	6250 13780	*5740 *12650	4010 8840			*3560 *7850	2910 6420	7.69 (25.2)
-4.5 m (-15 ft)	kg lb			*8990 *19820	*8990 *19820	*6360 *14020	*6360 *14020					*2980 *6570	*2980 *6570	6.11 (20.0)