

**Robex**

# I45LCR-9A

With Tier 4 Interim Engine installed

MOVING YOU FURTHER

**HYUNDAI HEAVY INDUSTRIES**



\*Photo may include optional equipment

 **HYUNDAI**  
CONSTRUCTION EQUIPMENT AMERICAS, INC.

# PRIDE AT WORK

Hyundai Heavy Industries 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 145LCR-9A

## Machine Walk-Around

### Engine Technology

Proven, reliable, fuel efficient, low emission and low noise  
Perkins Tier 4 interim & EU stage III B engine

### 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 valves, 1 EPPR valve, 1 check valve accumulator and pilot filter - controls 2 speed travel, power boost, boom priority, safety lock, arm regeneration

### 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  
Heated suspension (standard), New joystick consoles

#### Advanced 7" Color Cluster with Touch Screen

New Color LCD Display with easy to read digital gauges for hydraulic oil temperature, water temperature, and fuel. 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 is 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  
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.

# PRECISION

Innovative hydraulic system technologies make the 9A 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, flow for the job at hand. Operator 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 temperatures 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 9A

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 the ideal hydraulic flow balance for the boom and swing motions of the machine. The advanced CAPO system monitors the hydraulic system and adjusts its settings to maximize performance and productivity.

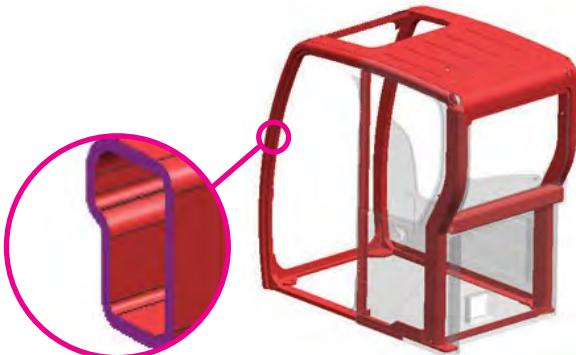
# PERFORMANCE

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



## Track Rail Guard & Adjusters

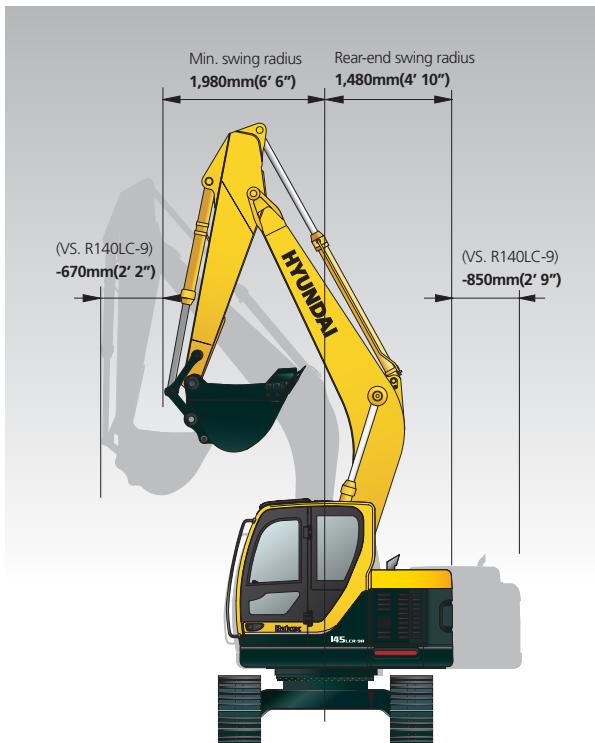
Durable track rail guards keep track links in place. Track adjustment is made easy with standard grease cylinder track adjusters and shock absorbing springs.



## Structure Strength

The 9A series cabin structure has been fitted with stronger but slimmer tubing for more safety and improved visibility. Low-stress, 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.

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



## Excellent Performance in Confined Areas

R145LCR-9A's short (1,480mm) 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.

## Perkins 1204E Engine

Tier 4 interim, four cylinder, 4 cycle, turbocharged, charge air cooled Perkins 1204E engine provides maximum power, reliability, optimum fuel economy, and reduced emissions. Electronically controlled fuel injection and diagnostic capabilities add to the engines efficiency and serviceability.

### Better Performance

Using DPF (Diesel Particulate Filter) enables uncompromised, fuel economy and reduced cooling pack size, because the engine calibration does not solely need to be focussed on low particulates. By using mainly passive regeneration and low back pressure aftertreatment designs fuel economy is not negatively impacted.

### Integrated aftertreatment without operating impact

The 1204E engines have fully transparent regeneration strategies and service free DPF, completely seamless to the operator.

### One solution for all regions

Area mandating the use of DPF are increasing and European air quality directive will drive more non-attainment zones. Because our products use DPFs, our customers don't have to offer a retrofit DPF option to allow machines to operate in these territories.

# PREFERENCE

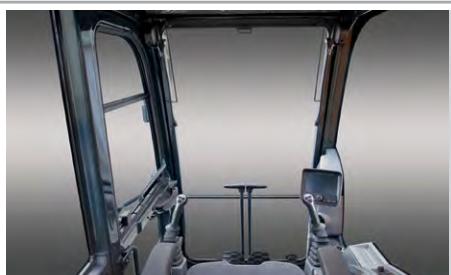
Operating a 9A series is unique to every operator. Operators can fully customize their work environment and operating preferences to fit their individual needs.



\*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 9A 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 9A 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 MP3 capabilities, 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. Also, the newly designed optional remote control offers mobile bluetooth-handsfree and radio cable-handsfree function.



## Smart Key System (Option)

9A series excavators provide smart key system as an option. This allows the operator to start the engine by the push of a starter button without inserting a key in the ignition.



## Operator - Friendly Cluster

The advanced new cluster with 7 inch wide color LCD with touch screen and toggle switch allows the operator to select his personal machine preferences. Power and work mode selection, self diagnostics, optional 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.

The newly applied FM transmitter application transmits signal to USB & Radio player with the same frequency as cluster. The player outputs the audio through the internal speaker in the cab. The video & firmware updates are possible with USB host support and an adjustable cluster hinge bracket improves cluster visibility.

## Monitor Tilt Range



# PROFITABILITY

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



\*Photo may include optional equipment.

## Fuel Efficiency

9A 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 9 series.



## Long-Life Components

9A 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		Perkins 1204E	
Type		Water cooled, 4 cycle Diesel, 4-cylinders in line, direct injection, turbocharged charger and air cooled	
Rated flywheel horse power	SAE	J1995 (gross)	124 HP (92.7 kW) / 1,950 rpm
		J1349 (net)	116 HP (87 kW) / 1,950 rpm
DIN		6271/1 (gross)	126 PS (92.7 kW) / 1,950 rpm
		6271/1 (net)	118 PS (87 kW) / 1,950 rpm
Max. torque		54.0 kgf·m(391 lbf·ft) / 1,400 rpm	
Bore X stroke		105 x 127 mm (4.1" x 5.0")	
Piston displacement		4,400cc (268.5 in³)	
Batteries		2 X 12V X 100AH	
Starting motor		24V- 4.5kW	
Alternator		24V- 85Amp	

## HYDRAULIC SYSTEM

### MAIN PUMP

Type	Variable displacement tandem axis piston pumps
Rated flow	2 X 123.5L /min (32.6 US gpm / 27.2 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: 2-105 X 1,105 mm (4.1" X 43.5")
	Arm: 1-115 X 1,138 mm (4.5" X 44.8")
	Bucket: 1-100 X 840 mm (3.9" X 33.1")
	Blade: 2-100 X 250 mm (3.9" X 9.8")
	2 pcs Boom      1st: 2-105 X 995 mm (4.1" X 39.2") 2nd: 1-145 X 613 mm (5.7" X 24.1")

## DRIVES & BRAKES

Drive method	Fully hydrostatic type
Drive motor	Axial piston motor, in-shoe design
Reduction system	Planetary reduction gear
Max. drawbar pull	13,300 kgf (29,321 lbf)
Max. travel speed(high) / (low)	5.5 km/hr (3.4 mph) / 3.3 km/hr (2.1 mph)
Gradeability	35° (70 %)
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)
Traveling and steering	Two levers with pedals
Engine throttle	Electric, Dial type

## SWING SYSTEM

Swing motor	Fixed displacement axial piston motor
Swing reduction	Planetary gear reduction
Swing bearing lubrication	Grease-bathed
Swing brake	Multi wet disc
Swing speed	11.5 rpm

## COOLANT & LUBRICANT CAPACITY

Refilling	liter	US gal	UK gal
Fuel tank	232	61.3	51.0
Engine coolant	14.5	2.8	2.3
Engine oil	10.5	4.6	3.8
Swing device-gear oil	2.5	0.7	0.5
Final drive(each)-gear oil	2.2	0.6	0.5
Hydraulic system(including tank)	180	47.6	39.6
Hydraulic tank	96	25.4	21.1

## 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	R145CR-9A	45EA	R145LCR-9A	47EA
No. of carrier roller on each side		1 EA		2 EA
No. of track roller on each side		7 EA		7 EA
No. of rail guard on each side		2 EA		2 EA

## OPERATING WEIGHT (APPROXIMATE)

Operating weight, including 4,600mm (15' 1") boom, 2,500mm (8' 2") arm, SAE heaped 0.52m (0.68 yd) bucket, lubricant, coolant, full fuel tank, full hydraulic tank, and all standard equipments.

### MAJOR COMPONENT WEIGHT

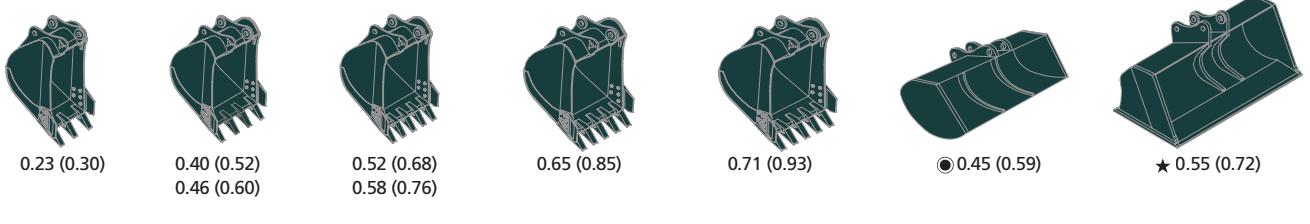
Upperstructure	6,950 kg (15,320 lb)
4.6m (15' 1")mono boom(with arm cylinder)	1,030 kg (2,270 lb)

### OPERATING WEIGHT

Shoes	Operating weight	Ground pressure		
Type	Width mm(in)	kg(lb)	kgf/cm²(psi)	
Triple grouser	500 (20")	R145CR-9A	14,600(32,190)	0.46(6.54)
		R145CR-9A (Dozer type)	15,400(33,950)	0.49(6.97)
		R145LCR-9A	14,785(32,600)	0.44(6.26)
		R145LCR-9A (Dozer type)	15,585(34,360)	0.47(6.68)
Triple grouser	600 (24")	R145CR-9A	14,790(32,610)	0.39(5.55)
		R145CR-9A (Dozer type)	15,610(34,410)	0.41(5.83)
		R145LCR-9A	14,980(33,020)	0.37(5.26)
		R145LCR-9A (Dozer type)	15,800(34,830)	0.40(5.69)
Triple grouser	700 (28")	R145CR-9A	15,020(33,110)	0.34(4.83)
		R145CR-9A (Dozer type)	15,840(34,920)	0.36(5.12)
		R145LCR-9A	15,215(33,540)	0.33(4.69)
		R145LCR-9A (Dozer type)	16,035(35,350)	0.34(4.83)

## BUCKETS

All buckets are welded with high-strength steel.



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		4,600 (15' 1") Boom			
		1,900 (6' 3") Arm	2,100 (6' 11") Arm		2,500 (8' 2") Arm	3,000 (9' 10") Arm		
0.23 (0.30)	0.20(0.26)	520(20.5)	620(24.4)	335(740)	●	●	●	■
0.40 (0.52)	0.35(0.46)	760(29.9)	860(33.9)	410(900)	●	●	●	■
0.46 (0.60)	0.40(0.52)	850(33.5)	950(37.4)	435(960)	●	●	●	▲
0.52 (0.68)	0.45(0.59)	935(36.8)	1,035(40.8)	460(1,010)	●	●	●	-
0.58 (0.76)	0.50(0.65)	1,030(40.6)	1,130(44.5)	480(1,060)	●	●	■	-
0.65 (0.85)	0.55(0.72)	1,110(43.7)	1,210(47.6)	500(1,100)	■	■	▲	-
0.71 (0.93)	0.60(0.78)	1,205(47.4)	-	540(1,190)	▲	▲	-	-
● 0.45 (0.59)	0.40(0.52)	1,520(59.8)	-	410(900)	●	●	■	-
★ 0.55 (0.72)	0.45(0.59)	1,800(70.9)	-	585(1,290)	■	▲	▲	-

● Ditching bucket

★ Slope finishing bucket

● : 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, a low-stress, full-box section design. 4.6m(15' 1") boom and 1.9m(6' 3"), 2.1m(6' 11"), 2.5m(8' 2"), 3.0m(9' 10")arms are available.

## DIGGING FORCE

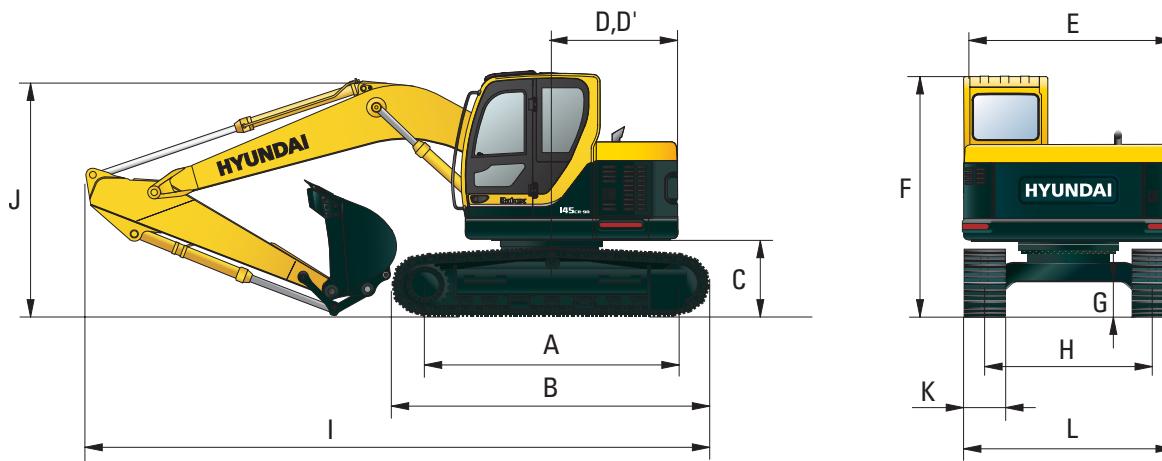
Boom	Length	mm (ft-in)	4,600 (15' 1")				Remarks
	Weight	kg (lb)	1,030 (2,270)				
Arm	Length	mm (ft-in)	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")	[ ]: Power Boost
	Weight	kg (lb)	560 (1,230)	580 (1,280)	610 (1,340)	670 (1,480)	
Bucket digging force	SAE	kN	87.3[94.8]	87.3[94.8]	87.3[94.8]	87.3[94.8]	
		kgf	8,900[9,660]	8,900[9,660]	8,900[9,660]	8,900[9,660]	
		lbf	19,620[21,300]	19,620[21,300]	19,620[21,300]	19,620[21,300]	
	ISO	kN	102[110.8]	102[110.8]	102[110.8]	102[110.8]	
		kgf	10,400[11,290]	10,400[11,290]	10,400[11,290]	10,400[11,290]	
		lbf	22,930[24,890]	22,930[24,890]	22,930[24,890]	22,930[24,890]	
Arm crowd force	SAE	kN	76.5[83.1]	73.6[79.9]	62.8[68.2]	55.9[60.7]	[ ]: Power Boost
		kgf	7,800[8,470]	7,500[8,140]	6,400[6,950]	5,700[6,190]	
		lbf	17,200[18,670]	16,530[17,950]	14,110[15,320]	12,570[13,640]	
	ISO	kN	80.4[87.3]	77.5[84.1]	65.7[71.4]	57.9[62.8]	
		kgf	8,200[8,900]	7,900[8,580]	6,700[7,270]	5,900[6,410]	
		lbf	18,080[19,630]	17,420[18,910]	14,770[16,040]	13,010[14,120]	

Note: Boom weight includes arm cylinder, piping, and pin

Arm weight includes bucket cylinder, linkage, and pin

# Dimensions & Working Range

## R145CR-9A DIMENSIONS

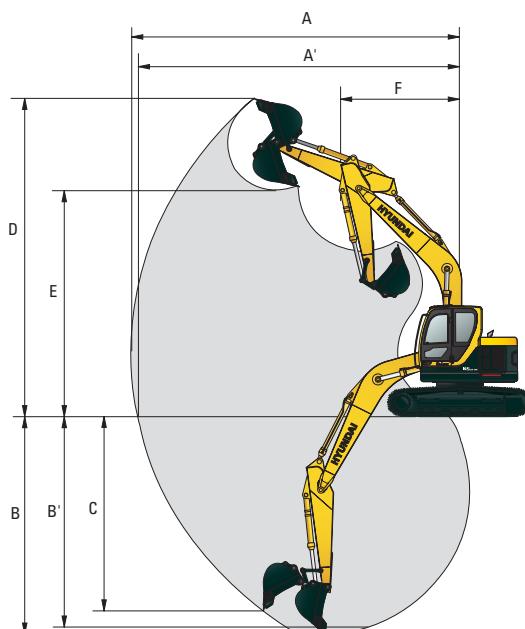


mm (ft-in)

<b>A</b> Tumbler distance	2,910 (9' 7")	Boom length	4,600(15' 1")		
<b>B</b> Overall length of crawler	3,640 (11' 11")	Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")
<b>C</b> Ground clearance of counterweight	930 (3' 1")	<b>I</b> Overall length	7,290 (23' 11")	7,310 (23' 12")	7,270 (23' 10")
<b>D</b> Tail swing radius	1,480 (4' 10")	<b>J</b> Overall height of boom	2,630 (8' 8")	2,710 (8' 11")	2,860 (9' 5")
<b>D'</b> Rear-end length	1,480 (4' 10")	<b>K</b> Track shoe width	500 (20")	600 (24")	700 (28")
<b>E</b> Overall width of upperstructure	2,500 (8' 2")	<b>L</b> Overall width	2,500 (8' 2")	2,600 (8' 6")	2,700 (8' 10")
<b>F</b> Overall height of cab	2,900 (9' 6")				
<b>G</b> Min. ground clearance	440 (1' 5")				
<b>H</b> Track gauge	2,000 (6' 7")				

## R145CR-9A WORKING RANGE

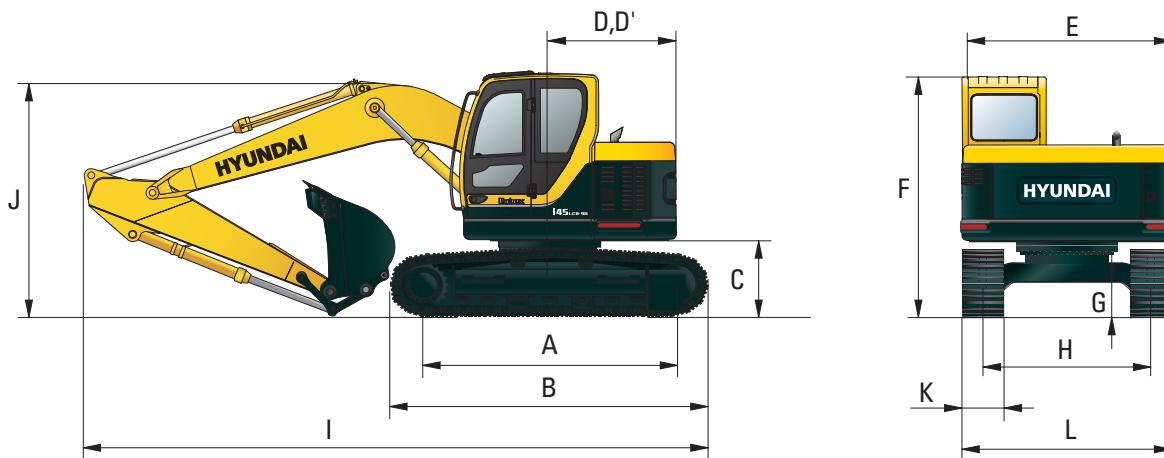
mm (ft-in)



Boom length	4,600(15' 1")			
Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")
<b>A</b> Max. digging reach	7,730 (25' 4")	7,900 (25' 11")	8,310 (27' 3")	8,770 (28' 9")
<b>A'</b> Max. digging reach on ground	7,580 (24' 10")	7,750 (25' 0")	8,170 (26' 10")	8,630 (28' 4")
<b>B</b> Max. digging depth	4,890 (16' 1")	5,100 (16' 9")	5,500 (18' 1")	5,990 (19' 8")
<b>B'</b> Max. digging depth (8' level)	4,640 (15' 3")	4,870 (16' 0")	5,290 (17' 4")	5,810 (19' 1")
<b>C</b> Max. vertical wall digging depth	4,400 (14' 5")	4,600 (15' 1")	5,000 (16' 5")	5,400 (17' 9")
<b>D</b> Max. digging height	8,840 (29' 0")	8,970 (29' 5")	9,350 (30' 8")	9,730 (31' 11")
<b>E</b> Max. dumping height	6,350 (20' 10")	6,470 (21' 3")	6,850 (22' 6")	7,230 (23' 9")
<b>F</b> Min. swing radius	1,860 (6' 1")	2,030 (6' 8")	1,980 (6' 6")	2,260 (7' 5")

# Dimensions & Working Range

## R145LCR-9A DIMENSIONS

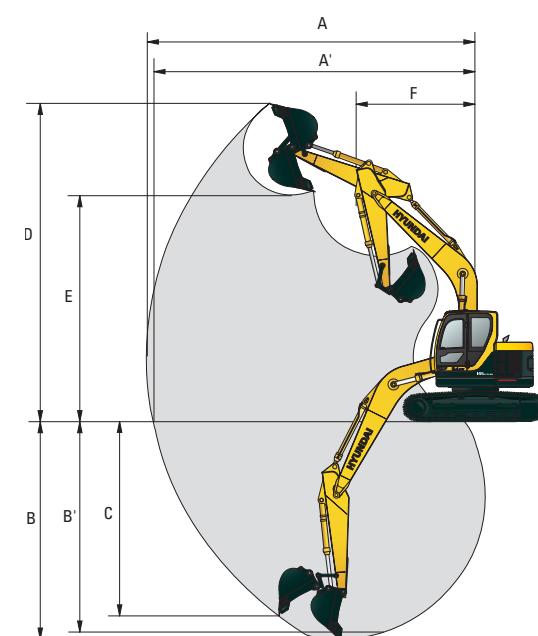


mm (ft-in)

<b>A</b> Tumbler distance	3,090 (10' 2")	Boom length	4,600(15' 1")		
<b>B</b> Overall length of crawler	3,820 (12' 6")	Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")
<b>C</b> Ground clearance of counterweight	930 (3' 1")	<b>I</b> Overall length	7,380 (24' 3")	7,400 (24' 3")	7,360 (24' 2")
<b>D</b> Tail swing radius	1,480 (4' 10")	<b>J</b> Overall height of boom	2,630 (8' 8")	2,710 (8' 11")	2,860 (9' 5")
<b>D'</b> Rear-end length	1,480 (4' 10")	<b>K</b> Track shoe width	500 (20")	600 (24")	700 (28")
<b>E</b> Overall width of upperstructure	2,500 (8' 2")	<b>L</b> Overall width	2,500 (8' 2")	2,600 (8' 6")	2,700 (8' 10")
<b>F</b> Overall height of cab	2,900 (9' 6")				
<b>G</b> Min. ground clearance	440 (1' 5")				
<b>H</b> Track gauge	2,000 (6' 7")				

## R145LCR-9A WORKING RANGE

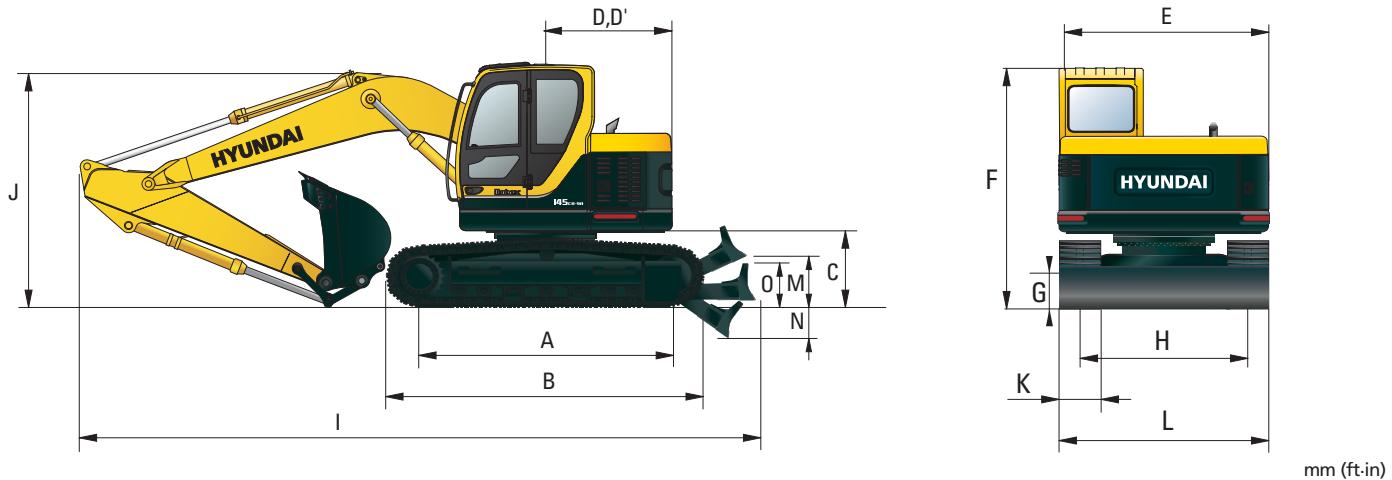
mm (ft-in)



Boom length	4,600(15' 1")			
Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")
<b>A</b> Max. digging reach	7,730 (25' 4")	7,900 (25' 11")	8,310 (27' 3")	8,770 (28' 9")
<b>A'</b> Max. digging reach on ground	7,580 (24' 10")	7,750 (25' 0")	8,170 (26' 10")	8,630 (28' 4")
<b>B</b> Max. digging depth	4,890 (16' 1")	5,100 (16' 9")	5,500 (18' 1")	5,990 (19' 8")
<b>B'</b> Max. digging depth (8' level)	4,640 (15' 3")	4,870 (16' 0")	5,290 (17' 4")	5,810 (19' 1")
<b>C</b> Max. vertical wall digging depth	4,400 (14' 5")	4,600 (15' 1")	5,000 (16' 5")	5,400 (17' 9")
<b>D</b> Max. digging height	8,840 (29' 0")	8,970 (29' 5")	9,350 (30' 8")	9,730 (31' 11")
<b>E</b> Max. dumping height	6,350 (20' 10")	6,470 (21' 3")	6,850 (22' 6")	7,230 (23' 9")
<b>F</b> Min. swing radius	1,860 (6' 1")	2,030 (6' 8")	1,980 (6' 6")	2,260 (7' 5")

# Dimensions & Working Range

## R145CR-9A (DOZER TYPE) DIMENSIONS



A Tumbler distance	2,910 (9' 7")	Boom length	4,600(15' 1")		
B Overall length of crawler	3,640 (11' 11")	Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")
C Ground clearance of counterweight	930 (3' 1")	I Overall length	7,840 (25' 9")	7,860 (25' 9")	7,820 (25' 8")
D Tail swing radius	1,480 (4' 10")	J Overall height of boom	2,630 (8' 8")	2,710 (8' 11")	2,860 (9' 5")
D' Rear-end length	1,480 (4' 10")	K Track shoe width	500 (20")	600 (24")	700 (28")
E Overall width of upperstructure	2,500 (8' 2")	L Overall width	2,500 (8' 2")	2,600 (8' 6")	2,700 (8' 10")
F Overall height of cab	2,900 (9' 6")				
G Min. ground clearance	440 (1' 5")				
H Track gauge	2,000 (6' 7")				
M Ground clearance of blade up	420 (1' 8")				
N Depth of blade down	430 (1' 6")				
O Height of blade	575 (1' 8")				

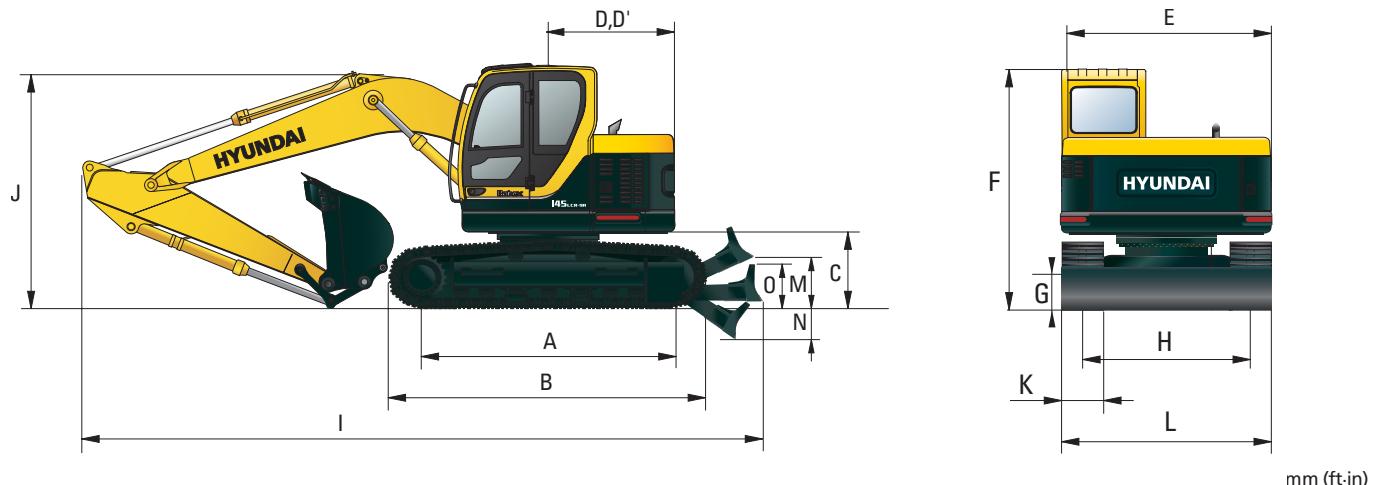
## R145CR-9A (DOZER TYPE) WORKING RANGE

mm (ft-in)

A	A'	F	Boom length	4,600(15' 1")		
Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")		
A Max. digging reach	7,730 (25' 4")	7,900 (25' 11")	8,310 (27' 3")	8,770 (28' 9")		
A' Max. digging reach on ground	7,580 (24' 10")	7,750 (25' 0")	8,170 (26' 10")	8,630 (28' 4")		
B Max. digging depth	4,890 (16' 1")	5,100 (16' 9")	5,500 (18' 1")	5,990 (19' 8")		
B' Max. digging depth (8' level)	4,640 (15' 3")	4,870 (16' 0")	5,290 (17' 4")	5,810 (19' 1")		
C Max. vertical wall digging depth	4,400 (14' 5")	4,600 (15' 1")	5,000 (16' 5")	5,400 (17' 9")		
D Max. digging height	8,840 (29' 0")	8,970 (29' 5")	9,350 (30' 8")	9,730 (31' 11")		
E Max. dumping height	6,350 (20' 10")	6,470 (21' 3")	6,850 (22' 6")	7,230 (23' 9")		
F Min. swing radius	1,860 (6' 1")	2,030 (6' 8")	1,980 (6' 6")	2,260 (7' 5")		

# Dimensions & Working Range

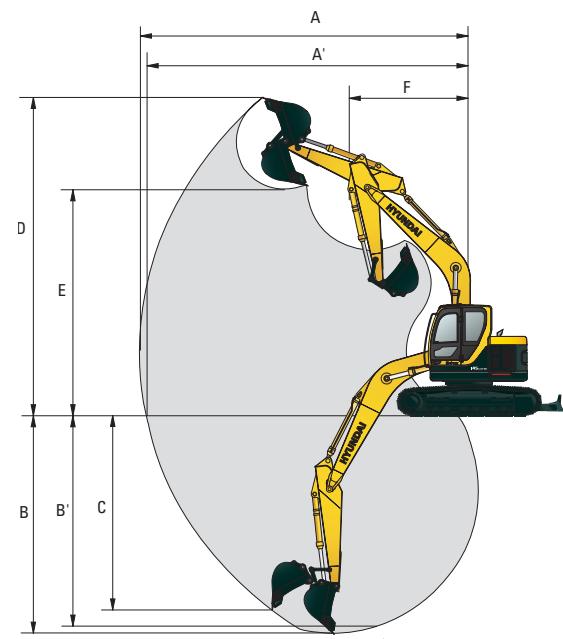
## R145LCR-9A (DOZER TYPE) DIMENSIONS



<b>A</b> Tumbler distance	3,090 (10' 2")	Boom length	4,600(15' 1")			
<b>B</b> Overall length of crawler	3,820 (12' 6")	Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")
<b>C</b> Ground clearance of counterweight	930 (3' 1")	<b>I</b> Overall length	7,840 (25' 9")	7,860 (25' 9")	7,820 (25' 8")	7,760 (25' 6")
<b>D</b> Tail swing radius	1,480 (4' 10")	<b>J</b> Overall height of boom	2,630 (8' 8")	2,710 (8' 11")	2,860 (9' 5")	3,210 (10' 6")
<b>D'</b> Rear-end length	1,480 (4' 10")	<b>K</b> Track shoe width	500 (20")	600 (24")	700 (28")	
<b>E</b> Overall width of upperstructure	2,500 (8' 2")	<b>L</b> Overall width	2,500 (8' 2")	2,600 (8' 6")	2,700 (8' 10")	
<b>F</b> Overall height of cab	2,900 (9' 6")					
<b>G</b> Min. ground clearance	440 (1' 5")					
<b>H</b> Track gauge	2,000 (6' 7")					
<b>M</b> Ground clearance of blade up	420 (1' 8")					
<b>N</b> Depth of blade down	430 (1' 6")					
<b>O</b> Height of blade	575 (1' 8")					

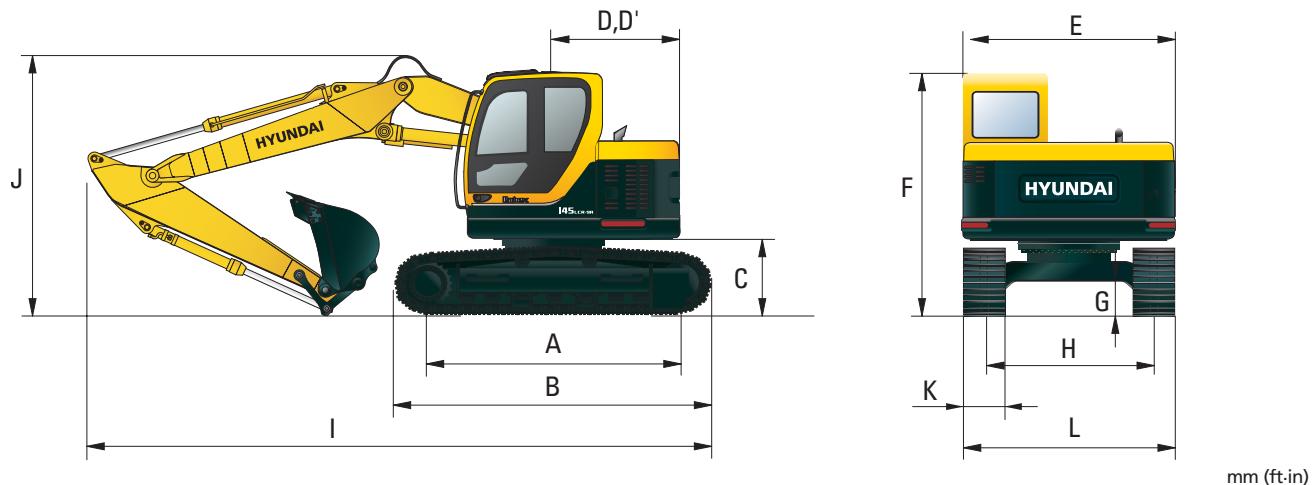
## R145LCR-9A (DOZER TYPE) WORKING RANGE

<b>A</b>	<b>A'</b>	Boom length	4,600(15' 1")			
		Arm length	1,900 (6' 3")	2,100 (6' 11")	2,500 (8' 2")	3,000 (9' 10")
<b>A</b> Max. digging reach		<b>A'</b> Max. digging reach on ground	7,730 (25' 4")	7,900 (25' 11")	8,310 (27' 3")	8,770 (28' 9")
<b>B</b> Max. digging depth		<b>B'</b> Max. digging depth (8' level)	7,580 (24' 10")	7,750 (25' 0")	8,170 (26' 10")	8,630 (28' 4")
<b>C</b> Max. vertical wall digging depth		<b>C</b> Max. digging height	4,890 (16' 1")	5,100 (16' 9")	5,500 (18' 1")	5,990 (19' 8")
<b>D</b> Max. dumping height		<b>D</b> Max. dumping height	4,640 (15' 3")	4,870 (16' 0")	5,290 (17' 4")	5,810 (19' 1")
<b>E</b> Min. swing radius		<b>E</b> Min. swing radius	4,400 (14' 5")	4,600 (15' 1")	5,000 (16' 5")	5,400 (17' 9")
<b>F</b> Max. digging height		<b>F</b> Max. digging height	6,350 (20' 10")	6,470 (21' 3")	6,850 (22' 6")	7,230 (23' 9")
			1,860 (6' 1")	2,030 (6' 8")	1,980 (6' 6")	2,260 (7' 5")



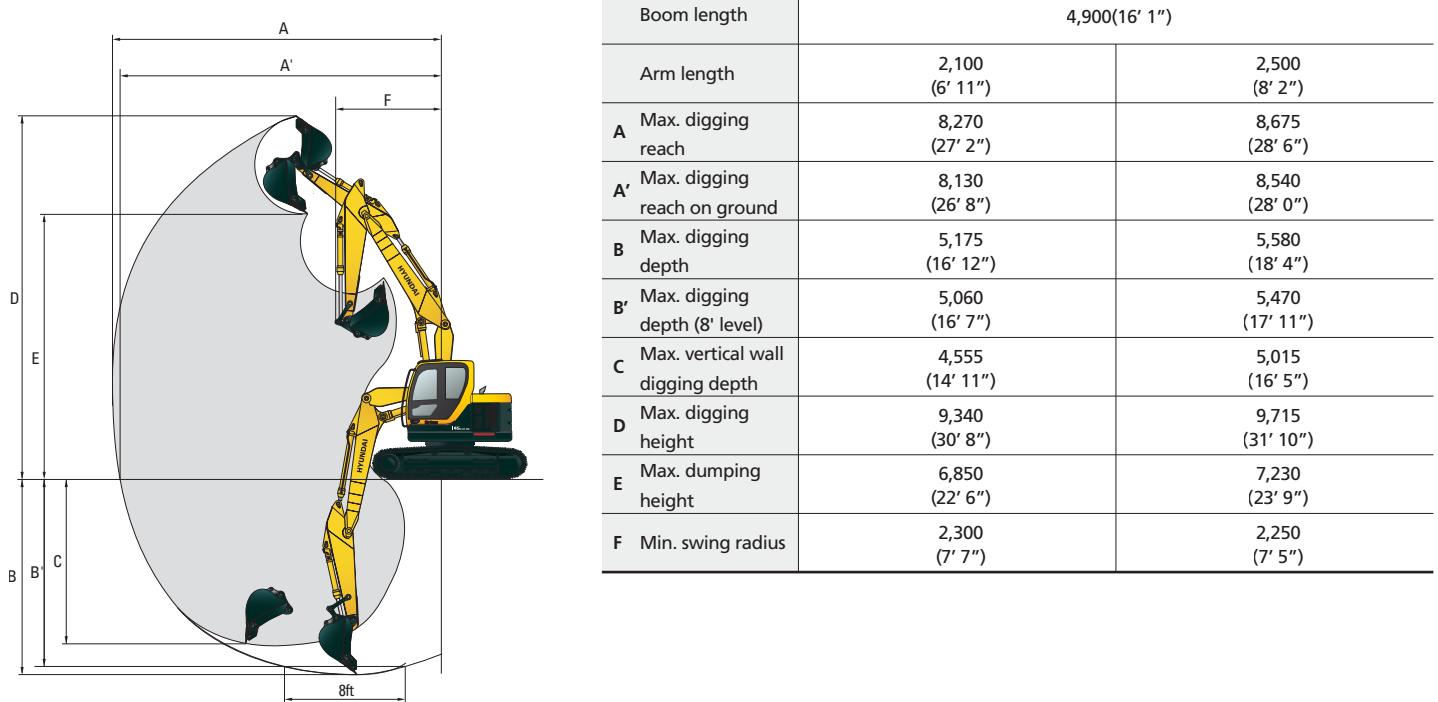
# Dimensions & Working Range

## R14LCR-9A ADJUSTABLE BOOM DIMENSIONS



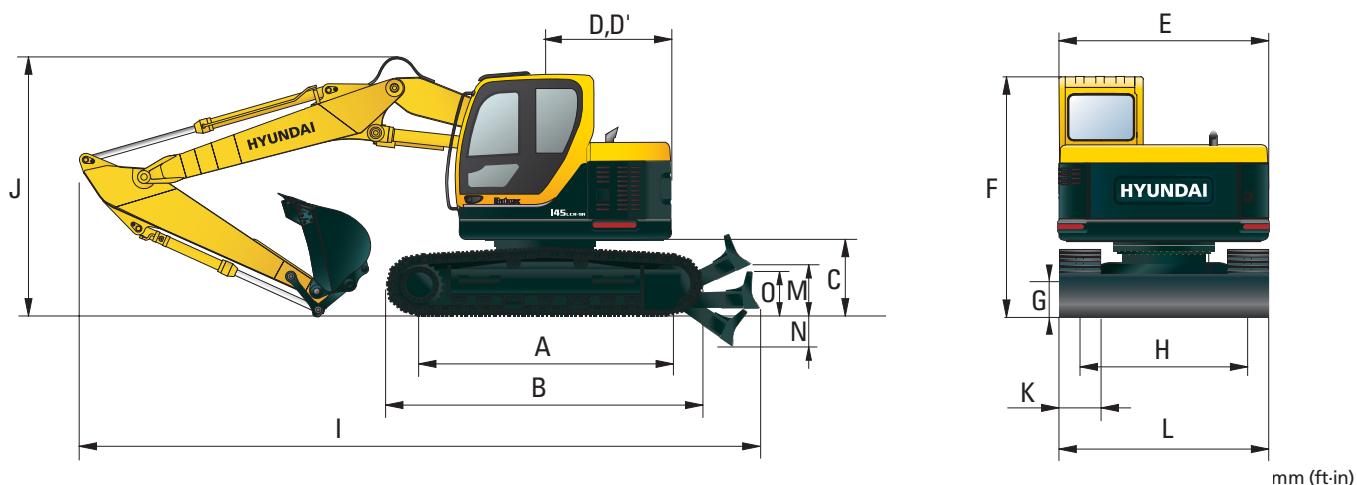
		mm (ft-in)		
A Tumbler distance	2,910 (9' 7")	Boom length	4,900(16' 1")	
B Overall length of crawler	3,640 (11' 11")	Arm length	2,100 (6' 11")	2,500 (8' 2")
C Ground clearance of counterweight	930 (3' 1")	I Overall length	7,720 (25' 4")	7,690 (25' 3")
D Tail swing radius	1,480 (4' 10")	J Overall height of boom	2,870 (9' 5")	2,900 (9' 6")
D' Rear-end length	1,480 (4' 10")	K Track shoe width	500 (20")	600 (24")
E Overall width of upperstructure	2,500 (8' 2")	L Overall width	2,500 (8' 2")	2,600 (8' 6")
F Overall height of cab	2,900 (9' 6")			2,700 (8' 10")
G Min. ground clearance	440 (1' 5")			
H Track gauge	2,000 (6' 7")			

## R14LCR-9A ADJUSTABLE BOOM WORKING RANGE



# Dimensions & Working Range

## R145LCR-9A ADJUSTABLE BOOM (DOZER TYPE) DIMENSIONS



A Tumbler distance	2,910 (9' 7")	Boom length	4,900(16' 1")	
B Overall length of crawler	3,640 (11' 11")	Arm length	2,100 (6' 11")	2,500 (8' 2")
C Ground clearance of counterweight	930 (3' 1")	I Overall length	8,180 (26' 10")	8,150 (26' 9")
D Tail swing radius	1,480 (4' 10")	J Overall height of boom	2,870 (9' 5")	2,900 (9' 6")
D' Rear-end length	1,480 (4' 10")	K Track shoe width	500 (20")	600 (24")
E Overall width of upperstructure	2,500 (8' 2")	L Overall width	2,500 (8' 2")	2,600 (8' 6")
F Overall height of cab	2,900 (9' 6")			700 (28")
G Min. ground clearance	440 (1' 5")			
H Track gauge	2,000 (6' 7")			
M Ground clearance of blade up	420 (1' 8")			
N Depth of blade down	430 (1' 6")			
O Height of blade	575 (1' 8")			

## R145LCR-9A ADJUSTABLE BOOM WORKING RANGE

A	Boom length	4,900(16' 1")		mm (ft-in)
A'	Arm length	2,100 (6' 11")	2,500 (8' 2")	
A Max. digging reach	8,270 (27' 2")	8,675 (28' 6")		
A' Max. digging reach on ground	8,130 (26' 8")	8,540 (28' 0")		
B Max. digging depth	5,175 (16' 12")	5,580 (18' 4")		
B' Max. digging depth (8' level)	5,060 (16' 7")	5,470 (17' 11")		
C Max. vertical wall digging depth	4,555 (14' 11")	5,015 (16' 5")		
D Max. digging height	9,340 (30' 8")	9,715 (31' 10")		
E Max. dumping height	6,850 (22' 6")	7,230 (23' 9")		
F Min. swing radius	2,300 (7' 7")	2,250 (7' 5")		

# Lifting Capacity

## R145CR-9A

 Rating over-front  Rating over-side or 360 degree

Boom : 4.6 m (15' 1") / Arm : 1.9 m (6' 3") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*3270	*3270			3360	2130	5.75
4.5 m (15 ft) kg lb		*4960	*4960	*4310	3250				7410	4700	(18.9)
3.0m (10 ft) kg lb		*10930	*10930	*9500	7170				2500	1550	6.73
1.5 m (5 ft) kg lb		*7230	5970	4900	3050	2980	1850		5510	3420	(22.1)
Ground Line -1.5 m (-5 ft) kg lb		*15940	13160	10800	6720	6570	4080		2170	1310	7.22
Line -3.0 m (-10 ft) kg lb		*9120	5220	4620	2800	2880	1750		4780	2890	(23.7)
		*20110	11510	10190	6170	6350	3860		4560	2710	(24.0)
Ground Line -1.5 m (-5 ft) kg lb		*8610	4970	4430	2640	2800	1680		2170	1290	7.06
Line -3.0 m (-10 ft) kg lb		*18980	10960	9770	5820	6170	3700		4780	2840	(23.2)
		*6830	*6830	*8140	4970	4370	2580		2560	1540	6.40
		*15060	*15060	*17950	10960	9630	5690		5640	3400	(21.0)
				*6010	5100	*4100	2650			*2250	*2250
				*13250	11240	*9040	5840			*4960	4960
											(16.8)

Boom : 4.6 m (15' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*3440	3330			3160	2000	5.98
4.5 m (15 ft) kg lb		*4390	*4390	*4140	3270	*2560	1910		6970	4410	(19.6)
3.0m (10 ft) kg lb		*9680	*9680	*9130	7210	*5640	4210		5270	3240	(22.7)
1.5 m (5 ft) kg lb		*6870	6040	*4840	3060	2990	1850		2080	1240	7.39
Ground Line -1.5 m (-5 ft) kg lb		*15150	13320	*10670	6750	6590	4080		4590	2730	(24.2)
Line -3.0 m (-10 ft) kg lb		*9010	5260	4620	2800	2880	1750		1170	740	(24.6)
		*19860	11600	10190	6170	6350	3860		4370	2580	
Ground Line -1.5 m (-5 ft) kg lb		*8870	4940	4410	2610	2780	1660		2070	1220	7.24
Line -3.0 m (-10 ft) kg lb		*19550	10890	9720	5750	6130	3660		4560	2690	(23.8)
		*6560	*6560	*8340	4900	4330	2550		2410	1440	6.60
		*14460	*14460	*18390	10800	9550	5620		5310	3170	(21.7)
		*9060	*9060	*6360	5020	*4350	2600			*2390	2070
		*19970	*19970	*14020	11070	*9590	5730			*5270	4560
											(17.7)

Boom : 4.6 m (15' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*2960	*2960			2710	1700	6.50
4.5 m (15 ft) kg lb					*6530	*6530			5970	3750	(21.3)
3.0m (10 ft) kg lb					*3460	3310	*2670	1930	2120	1280	7.37
1.5 m (5 ft) kg lb		*6090	*6090	*4480	3090	2990	1850		4670	2820	(24.2)
Ground Line -1.5 m (-5 ft) kg lb		*13430	*13430	*9880	6810	6590	4080		4120	2400	(25.6)
Line -3.0 m (-10 ft) kg lb		*8480	5380	4640	2810	2870	1730		3810	2270	(25.9)
		*18700	11860	10230	6190	6330	3810		3920	1030	
Ground Line -1.5 m (-5 ft) kg lb		*9050	4920	4390	2590	2750	1630		1850	1060	7.67
Line -3.0 m (-10 ft) kg lb		*19950	10850	9680	5710	6060	3590		4080	2340	(25.2)
		*5850	*5850	*8700	4820	4280	2490		2120	1240	7.07
		*12900	*12900	*19180	10630	9440	5490		4670	2730	(23.2)
		*8930	*8930	*7030	4900	4300	2510			*2400	1700
		*19690	*19690	*15500	10800	9480	5530			*5290	3750
				*3750							(19.6)
		*8270	*8270	*8270							

Boom : 4.6 m (15' 1") / Arm : 3.0 m (9' 10") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity
											m (ft)
6.0 m (20 ft) kg lb					*2560	*2560	*1730	*1730	2350	1450	7.07
4.5 m (15 ft) kg lb					*5640	*5640	*3810	*3810	5180	3200	(23.2)
3.0m (10 ft) kg lb					*2760	*2760	*2550	1980	1890	1120	7.86
1.5 m (5 ft) kg lb		*6080	*6080	*5620	4370				4170	2470	(25.8)
Ground Line -1.5 m (-5 ft) kg lb		*3690	*3690	*3690	3170	3030	1880	*1430	1180	1680	960
Line -3.0 m (-10 ft) kg lb		*8140	*8140	*8140	6990	6680	4140	*3150	2600	3700	2120
		*7740	5620	4720	2880	2890	1750	1950	1130	1610	910
Ground Line -1.5 m (-5 ft) kg lb		*17060	12390	10410	6350	6370	3860	4300	2490	3550	2010
Line -3.0 m (-10 ft) kg lb		*9180	5020	4440	2630	2760	1630	*1830	1080	1660	930
		*20240	11070	9790	5800	6080	3590	*4030	2380	3660	2050
		*5380	*5380	*8930	4820	4280	2490	2680	1560	1860	1060
		*11860	*11860	*19690	10630	9440	5490	5910	3440	4100	2340

# Lifting Capacity

## R145LCR-9A

 Rating over-front  Rating over-side or 360 degree

Boom : 4.6 m (15' 1") / Arm : 1.9 m (6' 3") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*3270 7210	*3270 7210			3710 8180	2160 4760	5.75 (18.9)
4.5 m (15 ft) kg lb			*4960 *10930	*4960 *10930	*4310 9500	3290 7250			2770 6110	1570 3460	6.73 (22.1)
3.0m (10 ft) kg lb			*7230 *15940	6040 13320	*5000 *11020	3090 6810	3310 7300	1870 4120	2410 5310	1330 2930	7.22 (23.7)
1.5 m (5 ft) kg lb			*9120 *20110	5290 11660	5160 11380	2840 6260	3200 7050	1780 3920	2310 5090	1250 2760	7.32 (24.0)
Ground Line kg lb			*8610 *18980	5040 11110	4960 10930	2670 5890	3120 6880	1700 3750	2420 5340	1310 2890	7.06 (23.2)
-1.5 m (-5 ft) kg lb	*6830 *15060	*6830 *15060	*8140 *17950	5030 11090	4900 10800	2620 5780			2850 6280	1560 3440	6.40 (21.0)
-3.0 m (-10 ft) kg lb			*6010 *13250	5170 11400	*4100 *9040	2690 5930			*2250 *4960	*2250 *4960	5.12 (16.8)

Boom : 4.6 m (15' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*3440 7580	3370 7430			3490 7690	2030 4480	5.98 (19.6)
4.5 m (15 ft) kg lb			*4390 *9680	*4390 *9680	*4140 9130	3310 7300	*2560 *5640	1940 4280	2650 5840	1490 3280	6.92 (22.7)
3.0m (10 ft) kg lb			*6870 *15150	6110 13470	*4840 *10670	3100 6830	3310 7300	1880 4140	2310 5090	1260 2780	7.39 (24.2)
1.5 m (5 ft) kg lb			*9010 *19860	5330 11750	5160 11380	2840 6260	3200 7050	1770 3900	2210 4870	1190 2620	7.49 (24.6)
Ground Line kg lb			*8870 *19550	5000 11020	4940 10890	2650 5840	3100 6830	1690 3730	2310 5090	1240 2730	7.24 (23.8)
-1.5 m (-5 ft) kg lb	*6560 *14460	*6560 *14460	*8340 *18390	4970 10960	4860 10710	2580 5690	3070 6770	1660 3660	2690 5930	1460 3220	6.60 (21.7)
-3.0 m (-10 ft) kg lb	*9060 *19970	*9060 *19970	*6360 *14020	5090 11220	*4350 *9590	2630 5800			*2390 *5270	2100 4630	5.38 (17.7)

Boom : 4.6 m (15' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft) kg lb					*2960 6530	*2960 6530			*2910 *6420	1720 3790	6.50 (21.3)
4.5 m (15 ft) kg lb					*3460 *7630	3350 7390	*2670 *5890	1960 4320	2360 5200	1300 2870	7.37 (24.2)
3.0m (10 ft) kg lb			*6090 *13430	*6090 *13430	*4480 *9880	3130 6900	3320 7320	1880 4140	2080 4590	1110 2450	7.81 (25.6)
1.5 m (5 ft) kg lb			*8480 *18700	5450 12020	5180 11420	2850 6280	3190 7030	1760 3880	2000 4410	1050 2310	7.90 (25.9)
Ground Line kg lb			*9170 *20220	4990 11000	4930 10870	2630 5800	3070 6770	1650 3640	2070 4560	1080 2380	7.67 (25.2)
-1.5 m (-5 ft) kg lb	*5850 *12900	*5850 *12900	*8700 *19180	4890 10780	4810 10600	2530 5580	3020 6660	1600 3530	2370 5220	1260 2780	7.07 (23.2)
-3.0 m (-10 ft) kg lb	*8930 *19690	*8930 *19690	*7030 *15500	4970 10960	*4770 *10520	2550 5620			*2400 *5290	1730 3810	5.97 (19.6)
-4.5 m (-15 ft) kg lb			*3750 *8270	3750 8270							

Boom : 4.6 m (15' 1") / Arm : 3.0 m (9' 10") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		
											m (ft)		
6.0 m (20 ft) kg lb					*2560 *5640	*2560 *5640	*1730 *3810	*1730 *3810			*2600 *5730	1470 3240	7.07 (23.2)
4.5 m (15 ft) kg lb					*2760 *6080	*2760 *6080	*2550 *5620	2000 4410			2100 4630	1140 2510	7.86 (25.8)
3.0m (10 ft) kg lb			*3690 *8140	*3690 *8140	*3690 *8140	3210 7080	*3210 *7080	1910 4210	*1430 *3150	1200 2650	1880 4140	980 2160	8.27 (27.1)
1.5 m (5 ft) kg lb			*7740 *17060	5690 12540	*5030 *11090	2920 6440	3220 7100	1780 3920	*1990 *4390	1150 2540	1800 3970	920 2030	8.36 (27.4)
Ground Line kg lb			*9190 *20260	5090 11220	4970 10960	2670 5890	3080 6790	1660 3660	*1830 *4030	1100 2430	1860 4100	950 2090	8.14 (26.7)
-1.5 m (-5 ft) kg lb	*5380 *11860	*5380 *11860	*9060 *19970	4890 10780	4810 10600	2530 5580	3000 6610	1590 3510			2090 4610	1080 2380	7.59 (24.9)
-3.0 m (-10 ft) kg lb	*7860 *17330	*7860 *17330	*7790 *17170	4900 10800	4780 10540	2500 5510	3000 6610	1590 3510			*2460 *5420	1420 3130	6.59 (21.6)
-4.5 m (-15 ft) kg lb	*8050 *17750	*8050 *17750	*5160 *11380	5080 11200	*3260 *7190	2620 5780							

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

## R145CR-9A (DOZER TYPE)

 Rating over-front  Rating over-side or 360 degree

Boom : 4.6 m (15' 1") / Arm : 1.9 m (6' 3") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach
											m (ft)
6.0 m (20 ft)	kg				*3270	*3270			3660	2270	5.75
4.5 m (15 ft)	kg		*4960	*4960	*4310	3440			8070	5000	(18.9)
3.0 m (10 ft)	kg		*10930	*10930	*9500	7580			2750	1660	6.73
1.5 m (5 ft)	kg		*7230	6310	*5000	3240	3260	1980	6060	3660	(22.1)
Ground	kg		*15940	13910	*11020	7140	7190	4370	2390	1410	7.22
Line	lb		*20110	12260	11110	6590	6970	4170	5050	2930	(24.0)
-1.5 m (-5 ft)	kg		*8120	5560	5040	2990	3160	1890	2290	1330	7.32
Ground	kg		*8610	5300	4850	2820	3080	1810	2400	1400	7.06
Line	lb		*18980	11680	10690	6220	6790	3990	5290	3090	(23.2)
-1.5 m (-5 ft)	kg	*6830	*6830	5300	4790	2770			2820	1660	6.40
Ground	kg	*15060	*15060	*17950	11680	10560	6110		6220	3660	(21.0)
-3.0 m (-10 ft)	kg		*6010	5440	*4100	2840			*2250	*2250	5.12
-3.0 m (-10 ft)	lb		*13250	11990	*9040	6260			*4960	*4960	(16.8)

Boom : 4.6 m (15' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
											m (ft)	
6.0 m (20 ft)	kg				*3440	*3440			3440	2130	5.98	
4.5 m (15 ft)	kg		*4390	*4390	*4140	3460	*2560	2040	2620	1580	6.92	
3.0 m (10 ft)	kg		*9680	*9680	*9130	7630	*5640	4500	5780	3480	(22.7)	
1.5 m (5 ft)	kg		*6870	6370	*4840	3250	3270	1980	2290	1350	7.39	
Ground	kg		*15150	14040	*10670	7170	7210	4370	5050	2980	(24.2)	
Line	lb		*9010	5600	5040	2990	3160	1880	2190	1270	7.49	
-1.5 m (-5 ft)	kg	*19860	12350	11110	6590	6970	4140	4830	2800	(24.6)		
Ground	kg		*8870	5270	4830	2800	3060	1790	2290	1320	7.24	
Line	lb	*19550	11620	10650	6170	6750	3950	5050	2910	(23.8)		
-1.5 m (-5 ft)	kg	*6560	*6560	5240	4750	2740	3030	1760	2660	1550	6.60	
Ground	kg	*14460	*14460	*18390	11550	10470	6040	6680	3880	5860	3420	(21.7)
-3.0 m (-10 ft)	kg	*9060	*9060	*6360	5360	*4350	2790		*2390	2220	5.38	
-3.0 m (-10 ft)	lb	*19970	*19970	*14020	11820	*9590	6150		*5270	4890	(17.7)	

Boom : 4.6 m (15' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
											m (ft)	
6.0 m (20 ft)	kg				*2960	*2960			*2910	1820	6.50	
4.5 m (15 ft)	kg				*6530	*6530			*6420	4010	(21.3)	
3.0 m (10 ft)	kg		*6090	*6090	*4480	3280	3270	1980	2070	1190	7.81	
1.5 m (5 ft)	kg		*13430	*13430	*9880	7230	7210	4370	4560	2620	(25.6)	
Ground	kg		*8480	5720	5060	3000	3150	1860	1980	1120	7.90	
Line	lb		*18700	12610	11160	6610	6940	4100	4370	2470	(25.9)	
-1.5 m (-5 ft)	kg	*5850	*5850	5160	4700	2680	2980	1710	2350	1340	7.07	
Ground	kg	*12900	*12900	*19180	11380	10360	5910	6570	3770	5180	2950	(23.2)
-3.0 m (-10 ft)	kg	*8930	*8930	*7030	5230	4720	2700		*2400	1830	5.97	
-3.0 m (-10 ft)	lb	*19690	*19690	*15500	11530	10410	5950		*5290	4030	(19.6)	
-4.5 m (-15 ft)	kg		*3750	*3750								
-4.5 m (-15 ft)	lb		*8270	*8270	*8270							

Boom : 4.6 m (15' 1") / Arm : 3.0 m (9' 10") / Bucket : 0.52 m<sup>3</sup> (0.68 yd) SAE heaped / Shoe : 500mm(20") 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)		Capacity
											m (ft)
6.0 m (20 ft)	kg				*2560	*2560	*1730	*1730	2570	1560	7.07
4.5 m (15 ft)	kg				*5640	*5640	*3810	*3810	5670	3440	(23.2)
3.0 m (10 ft)	kg		*2760	*2760	*2550	2110			2090	1220	7.86
1.5 m (5 ft)	kg		*6080	*6080	*5620	4650			4610	2690	(25.8)
Ground	kg		*3690	*3690	3360	3210	2020	*1430	1280	1860	1050
Line	lb		*8140	*8140	*8140	7410	*7080	4450	*3150	2820	4100
-1.5 m (-5 ft)	kg		*7740	5950	*5030	3070	3170	1890	*1990	1230	990
Ground	kg		*17060	13120	*11090	6770	6990	4170	*4390	2710	3950
-3.0 m (-10 ft)	kg		*9180	5360	4850	2820	3040	1770	*1830	1180	1850
-3.0 m (-10 ft)	lb		*20240	11820	10690	6220	6700	3900	*4030	2600	4080
-4.5 m (-15 ft)	kg	*5380	*5380	*8930	5160	4700	2680	2960	1690	2070	1160
-4.5 m (-15 ft)	lb	*11860	*11860	*19690	11380	10360	5910	6530	3730	4560	2560
-3.0 m (-10 ft)	kg	*7860	*7860	*7790	5170	4670	2650	2960	1690	*2460	1520
-3.0 m (-10 ft)	lb	*17330	*17330	*17170	11400	10300	5840	6530	3730	*5420	3350
-4.5 m (-15 ft)	kg	*8050	*8050	*5160	*5160	*3260	2770				
-4.5 m (-15 ft)	lb	*17750	*17750	*11380	*11380	*7190	6110	</			

# Lifting Capacity

## R145LCR-9A (DOZER TYPE)

 Rating over-front  Rating over-side or 360 degree

Boom : 4.6 m (15' 1") / Arm : 1.9 m (6' 3") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
												m (ft)
6.0 m (20 ft)	kg					*3270	*3270			*3720	2300	5.75
4.5 m (15 ft)	kg			*4960	*4960	*4310	3480			*8200	5070	(18.9)
3.0 m (10 ft)	kg			*10930	*10930	*9500	7670			2960	1680	6.73
1.5 m (5 ft)	kg			*7230	6370	*5000	3280	3530	2000	6530	3700	(22.1)
Ground Line	kg			*15940	14040	*11020	7230	7780	4410	5690	3150	(23.7)
-1.5 m (-5 ft)	kg			*9120	5630	5490	3030	3430	1910	2480	1360	7.32
-3.0 m (-10 ft)	kg			*20110	12410	12100	6680	7560	4210	5470	3000	(24.0)
6.0 m (20 ft)	lb			*15060	*15060	*17950	11840	11680	6310	7360	4060	5730
4.5 m (15 ft)	lb						5240	2810			3050	1680
3.0 m (10 ft)	lb						11550	6190			6720	3700
1.5 m (5 ft)	lb						11840	11680			*2250	*2250
Ground Line	lb						12150	9040			*4960	*4960
-1.5 m (-5 ft)	lb						6350					(16.8)

Boom : 4.6 m (15' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
												m (ft)
6.0 m (20 ft)	kg					*3440	*3440			*3550	2160	5.98
4.5 m (15 ft)	kg			*4390	*4390	*4140	3500	*2560	2070	2830	1600	6.92
3.0 m (10 ft)	kg			*9680	*9680	*9130	7720	*5640	4560	6240	3530	(22.7)
1.5 m (5 ft)	kg			*6870	6440	*4840	3290	3530	2010	2480	1370	7.39
Ground Line	kg			*15150	14200	*10670	7250	7780	4430	5470	3020	(24.2)
-1.5 m (-5 ft)	kg			*9010	5670	5490	3030	3420	1900	2380	1290	7.49
-3.0 m (-10 ft)	kg			*19860	12500	12100	6680	7540	4190	5250	2840	(24.6)
6.0 m (20 ft)	lb			*8340	5310	5280	2840	3320	1820	2480	1340	7.24
4.5 m (15 ft)	lb			*19550	11770	11640	6260	7320	4010	5470	2950	(23.8)
3.0 m (10 ft)	lb			*14460	*14460	*18390	11710	11460	6110	7250	3950	6350
1.5 m (5 ft)	lb			*9060	*9060	*6360	5430	*4350	2820		*2390	2250
Ground Line	lb			*19970	*19970	*14020	11970	*9590	6220		*5270	4960
-1.5 m (-5 ft)	lb											(17.7)

Boom : 4.6 m (15' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
												m (ft)
6.0 m (20 ft)	kg					*2960	*2960			*2910	1840	6.50
4.5 m (15 ft)	kg					*6530	*6530			*6420	4060	(21.3)
3.0 m (10 ft)	kg			*6090	*6090	*4480	3320	3540	2010	2240	1210	7.81
1.5 m (5 ft)	kg			*13430	*13430	*9880	7320	7800	4430	4940	2670	(25.6)
Ground Line	kg			*8480	5780	*5360	3040	3410	1890	2150	1140	7.90
-1.5 m (-5 ft)	kg			*18700	12740	*11820	6700	7520	4170	4740	2510	(25.9)
-3.0 m (-10 ft)	kg			*9170	5330	5260	2820	3300	1790	2230	1180	7.67
6.0 m (20 ft)	lb			*5850	*5850	*8700	5230	5150	2720	3240	1740	2550
4.5 m (15 ft)	lb			*12900	*12900	*19180	11530	11350	6000	7140	3840	5620
3.0 m (10 ft)	lb			*8930	*8930	*7030	5300	*4770	2740		*2400	1860
1.5 m (5 ft)	lb			*19690	*19690	*15500	11680	*10520	6040		*5290	4100
Ground Line	lb			*20260	11970	11710	6310	7280	3950	*4030	2650	(19.6)
-1.5 m (-5 ft)	lb											

Boom : 4.6 m (15' 1") / Arm : 3.0 m (9' 10") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
												m (ft)
6.0 m (20 ft)	kg					*2560	*2560	*1730	*1730	*2600	1580	7.07
4.5 m (15 ft)	kg					*5640	*5640	*3810	*3810	*5730	3480	(23.2)
3.0 m (10 ft)	kg			*2760	*2760	*2550	2140			2260	1240	7.86
1.5 m (5 ft)	kg			*6080	*6080	*5620	4720			4980	2730	(25.8)
Ground Line	kg			*3690	*3690	*3690	3400	*3210	2040	*1430	1300	2020
-1.5 m (-5 ft)	kg			*8140	*8140	*8140	7500	*7080	4500	*3150	2870	4450
-3.0 m (-10 ft)	kg			*17060	13270	*11090	6860	7580	4210	*4390	2760	4300
6.0 m (20 ft)	lb			*9190	5430	5310	2860	3300	1790	*1830	1200	2010
4.5 m (15 ft)	lb			*20260	11970	11710	6310	7280	3950	*4030	2650	4430
3.0 m (10 ft)	lb			*5380	*5380	*9060	5220	5140	2720	3220	1720	2250
1.5 m (5 ft)	lb			*11860	*11860	*19970	11510	11330	6000	7100	3790	4960
Ground Line	lb			*7860	*7860	*7790	5240	5120	2690	3220	1720	
-1.5 m (-5 ft)	lb			*17330	*17330	*17170	11550	11290	5930	7100	3790	*2460
-3.0 m (-10 ft)	lb			*17750	*17750	*11380	*11380	*7190	6190		*5420	3400
6.0 m (20 ft)	kg											

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

## R145LCR-9A ADJUSTABLE BOOM

 Rating over-front  Rating over-side or 360 degree

Boom : 4.9 m (16' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity	Reach		
									m (ft)			
6.0 m (20 ft)	kg lb	*3440 *7580	*3440 *7580	*3680 *8110	*3680 *7690	*3490 7520	3410		3050 6720	1730 3810	6.46 (21.2)	
4.5 m (15 ft)	kg lb	*3330 *7340	*3330 *7340	*4400 *9700	*4400 *9700	*3800 *8380	3300 7280	*3400 *7500	1940 4280	2380 5250	1300 2870	7.33 (24.0)
3.0m (10 ft)	kg lb			*6780 *14950	5910 13030	*4560 *10050	3030 6680	3300 7280	1840 4060	2100 4630	1110 2450	7.77 (25.5)
1.5 m (5 ft)	kg lb					5080 11200	2740 6040	3170 6990	1720 3790	2010 4430	1050 2310	7.87 (25.8)
Ground Line	kg lb			*5890 *12990	4810 10600	4860 10710	2550 5620	3060 6750	1620 3570	2100 4630	1090 2400	7.63 (25.0)
-1.5 m (-5 ft)	kg lb			*8270 *18230	4820 10630	4790 10560	2490 5490	3020 6660	1590 3510			

Boom : 4.9 m (16' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") triple grouser

Load point height m (ft)	Load radius								At max. reach					
	1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		Capacity	Reach				
									m (ft)					
6.0 m (20.0 ft)	kg lb	*2580 *5690	*2580 *5690	*2970 *6550	*2970 *6550	*3100 *6830	*3100 *4520	*2050 4340	1970		2660 5860	1480 3260	6.96 (22.8)	
4.5 m (15.0 ft)	kg lb	*2210 *4870	*2210 *4870	*3110 *6860	*3110 *6860	*3430 *7560	*3340 7360	*3140 *6920	1960 4320		2130 4700	1140 2510	7.77 (25.5)	
3.0m (10.0 ft)	kg lb			*6010 *13250	*6010 *13250	*4220 *9300	3070 6770	3310 7300	1850 4080		1900 4190	970 2140	8.18 (26.8)	
1.5 m (5.0 ft)	kg lb			*7630 *16820	5190 11440	5110 11270	2760 6080	3160 6970	1710 3770	2150 4740	1110 2450	1820 4010	920 2030	8.27 (27.1)
Ground Line	kg lb			*6220 *13710	4780 10540	4850 10690	2530 5580	3030 6680	1590 3510		1890 4170	950 2090	8.05 (26.4)	
-1.5 m (-5.0 ft)	kg lb			*8430 *18580	4720 10410	4730 10430	2430 5360	2970 6550	1540 3400		2130 4700	1090 2400	7.49 (24.6)	
-3.0 m (-10.0 ft)	kg lb					4760 10490	2450 5400							

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

## R145LCR-9A ADJUSTABLE BOOM (DOZER TYPE)

 Rating over-front  Rating over-side or 360 degree

Boom : 4.9 m (16' 1") / Arm : 2.1 m (6' 11") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") 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)		Capacity		Reach	
													m (ft)
6.0 m (20 ft)	kg	*3440	*3440	*3680	*3680	*3490	*3490			*3150	1860	6.46	
	lb	*7580	*7580	*8110	*8110	*7690	*7690			*6940	4100	(21.2)	
4.5 m (15 ft)	kg	*3330	*3330	*4400	*4400	*3800	3490	*3400	2070	2620	1410	7.33	
	lb	*7340	*7340	*9700	*9700	*8380	7690	*7500	4560	5780	3110	(24.0)	
3.0 m (10 ft)	kg			*6780	6240	*4560	3220	3610	1980	2320	1210	7.77	
	lb			*14950	13760	*10050	7100	7960	4370	5110	2670	(25.5)	
1.5 m (5 ft)	kg					*5380	2930	3470	1850	2230	1140	7.87	
	lb					*11860	6460	7650	4080	4920	2510	(25.8)	
Ground Line	kg			*5890	5150	5320	2740	3360	1760	2320	1190	7.63	
	lb			*12990	11350	11730	6040	7410	3880	5110	2620	(25.0)	
-1.5 m (-5 ft)	kg			*8270	5160	5250	2680	3320	1720				
	lb			*18230	11380	11570	5910	7320	3790				

Boom : 4.9 m (16' 1") / Arm : 2.5 m (8' 2") / Bucket : 0.52 m<sup>3</sup> (0.68 yd<sup>3</sup>) SAE heaped / Shoe : 500mm(20") triple grouser

Load point height m (ft)		Load radius						At max. reach						
		1.5 m (5.0 ft)		3.0 m (10.0 ft)		4.5 m (15.0 ft)		6.0 m (20.0 ft)		7.5 m (25.0 ft)		Capacity		Reach
													m (ft)	
6.0 m (20.0 ft)	kg	*2580	*2580	*2970	*2970	*3100	*3100	*2050	*2050			*2890	1590	6.96
	lb	*5690	*5690	*6550	*6550	*6830	*6830	*4520	*4520			*6370	3510	(22.8)
4.5 m (15.0 ft)	kg	*2210	*2210	*3110	*3110	*3430	*3430	*3140	2090			2350	1240	7.77
	lb	*4870	*4870	*6860	*6860	*7560	*7560	*6920	4610			5180	2730	(25.5)
3.0 m (10.0 ft)	kg			*6010	*6010	*4220	3260	*3450	1980			2100	1070	8.18
	lb			*13250	*13250	*9300	7190	*7610	4370			4630	2360	(26.8)
1.5 m (5.0 ft)	kg			*7630	5520	*5120	2950	3460	1840	*2330	1210	2020	1010	8.27
	lb			*16820	12170	*11290	6500	7630	4060	*5140	2670	4450	2230	(27.1)
Ground Line	kg			*6220	5120	5300	2720	3330	1730			2090	1040	8.05
	lb			*13710	11290	11680	6000	7340	3810			4610	2290	(26.4)
-1.5 m (-5.0 ft)	kg			*8430	5060	5190	2620	3270	1670			2360	1190	7.49
	lb			*18580	11160	11440	5780	7210	3680			5200	2620	(24.6)
-3.0 m (-10.0 ft)	kg					*5000	2640							
	lb					*11020	5820							

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.

## 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  
Radio & USB player  
Handsfree mobile phone system with USB  
Transparent cabin roof-cover  
12 volt power outlet (24V DC to 12V DC converter)  
Sun visor

### Cabin ROPS(ISO 12117-2)

ROPS(Roll over protective structure)

### 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  
Overload  
Communication error  
Low battery  
Air cleaner clogging  
Indicators  
Max power  
Low speed/High speed  
Fuel warmer  
Auto idle

### Door and cab locks, one key

### Three outside rearview mirrors

Mechanical suspension seat with heater

Pilot-operated slideable joystick

### Four front working lights

Electric horn

Batteries (2 x 12V x 100 AH)

Battery master switch

Removable clean-out dust net for cooler

Automatic swing brake

Removable reservoir tank

Fuel pre-filter

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 (35 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

### Booms

4.6 m, 15' 1"

4.9 m, 16' 1" ( Hyd. adjustable boom )

### Arms

1.9m, 6' 3"

2.1 m, 6' 11"

2.5 m, 8' 2"

3.0 m, 9' 10"

### Cabin FOPS/FOG (ISO/DIS 10262) Level II

FOPS (Falling Object Protective Structure)

FOG (Falling Object Guard)

### Cabin lights

### Cabin front window rain guard

### Track shoes

Triple grousers shoe (500mm, 20")

Triple grousers shoe (600mm, 24")

Triple grousers shoe (700mm, 28")

Rubber pad (600mm, 24")

### Lower frame under cover (Additional)

Long crawler lower frame

Dozer blade

Tool kit

Rearview camera

Pattern change valve (2 patterns)

Hi-mate (Remote Management System)

## PLEASE CONTACT

\* 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.

