

# R230LM **SMART PLUS**

OPERATING WEIGHT: 23300kgs

GROSS POWER : 148 HP @ 2000 rpm

BUCKET CAPACITY: 0.87 - 1.7m<sup>3</sup>



MOVING YOU **FURTHER**

\*Design, aesthetics & features may vary from actual

# R230LM **SMART** *plus*

## BEST-IN CLASS PERFORMANCE

- Advanced CAPO system
- Hydraulic flow summation
- Regeneration system
- Excellent digging forces



## OPERATOR COMFORT

- Spacious cabin
- Fully adjustable seat
- Enhanced visibility
- User friendly functionality



## IMPROVED FUEL EFFICIENCY

- New ECO mode
- Fuel saving kit
- Electro hydraulic system
- Auto deceleration system
- Efficient breaker mode



# DESIGNED FOR SMART WORK



## Increased Machine Durability

- Strengthened undercarriage
- Proven upper structure
- Forged ring body
- Heavy duty front attachment



## Simplified Maintenance

- Easy serviceability
- Extended maintenance
- Large capacity fluid tank
- Low life cycle cost



## Parts & Support

- Hyundai genuine parts
- Max parts availability
- On-site product support
- Remote management system (Hi-Track)



# Performance

## 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.

New technologies designed to improve performance and precision, make the Hyundai excavator smooth, fast and easy to control.

Take pride in your work with Hyundai!



## ENGINE

The water cooled, 4 cycle diesel, 6 cylinder in line, direct injection turbocharged, charge air cooled engine is built for power, reliability, efficiency.

The engine is manufactured to perform in wide range of heat, humidity and dust conditions without compromising productivity.



# R230LM



## HYDRAULIC SYSTEM

Electro hydraulic control system provides wide range of flow at various workloads for paramount productivity. Open center design of Main Control Valve (MCV) ensures fast response and maximum efficiency in tough conditions.



## CHARGE AIR COOLER

- Cools the air as it passes through turbocharger
- Resulting in cool high density, bigger mass of air being pumped to engine
- Increasing the burning efficiency

## CHOICE OF OPERATING MODE

Working Mode	Advantage
<b>H Mode</b>	<ul style="list-style-type: none"> <li>• Maximum Power</li> <li>• Fast Cycle time</li> </ul>
<b>S Mode</b>	<ul style="list-style-type: none"> <li>• Balance between power and fuel efficiency</li> </ul>
<b>Eco Mode</b>	<ul style="list-style-type: none"> <li>• Better fuel efficiency</li> </ul>
<b>Breaker Mode</b>	<ul style="list-style-type: none"> <li>• Sets pump flow to optimal level and boosts efficiency</li> </ul>



## EFFICIENT COMBINED OPERATION

Inbuild flow summation system and **swing priority** function leads to faster swing cycle results in excellent output



## BEST IN CLASS TRAVEL PERFORMANCE

- Higher traction force
- Dual travel option
- High maneuverability

**Traction Force : 21100 kgf**



## DIGGING FORCES

Best in class digging forces ensures faster productive cycle time in extreme work conditions.

- **Bucket - 15500 kgf**
- **Arm - 12000 kgf**



# Fuel Efficiency



## IMPROVED FUEL EFFICIENCY

Advanced CAPO system, newly designed CMCU, power & working mode options results in excellent fuel efficiency.

## FUEL SAVING KIT

- Monitor undue load and cut down losses.
- Provides better fuel efficiency



## ARM REGENERATION SYSTEM

- Smooth operation
- Prevent cavitation
- Increased performance & fuel efficiency

## NEGATIVE FLOW CONTROL

Optimum balance between pump and engine output for better fuel efficiency



## ONE TOUCH IDLE & AUTO DECELERATION

Prevents fuel losses by reducing engine rpm during no-load condition

## EXCLUSIVE BREAKER MODE

Excellent fuel saving due to exclusive power for breaker operation



NEW ECO MODE

MULTI LANGUAGE

MOBILE CHARGING POINT





# Operator Comfort

## OPERATOR DELIGHT

More space, better visibility, powerful air-conditioning and adjustable fully suspension seat, easy to access controls ensure that the operator can work for longer hours without stress or fatigue in the comfortable and safe working environment.



360 degree visibility, fully open sunroof, added side lamp & mirror ensure comfortable, safe working environment.

## OPERATOR SEAT

Easily adjustable fully suspension seat with adjustable arm rest



## SPACIOUS CABIN

More head room, large space, large door for easy entry and exit



## INSTRUMENT PANEL

The user-friendly multi language option cluster making it easy to check all critical systems like

- Hydraulic oil temperature,
- Coolant temperature
- Fuel level
- Self diagnostic checks
- Maintenance management

to optimizing productivity needs ensuring fuel efficiency



SUN VISOR (OPTIONAL)



## AIR CONDITIONER

- High performance air conditioner
- Improved AC ducting
- Water bottle cooling system

# Reliability



## HEAVY DUTY FRONT STRUCTURE

Use of specialized advance steel plates and reinforced design for higher strength and durability

## ULTIMATE RELIABILITY



Reinforced idler frame



Lower frame belly guard



1 pc cast H link



Reinforced bucket link



HD Track link



Rock Guard



Tank Safety Cover



## SWING & TRAVEL SYSTEM

Highly efficient Hyundai designed swing and travel system ensure maximum reliability & performance.



## RELIABLE ELECTRICALS

- Dust and water proof connectors
- Longer component life



## AIR PRE-CLEANER

- Removes dirt and Debris from air before entering air filter
- Improves air filter life
- Low maintenance cost

## RUGGED UNDERCARRIAGE

X frame provides excellent resistance to torsional bending to enhance structure life







# Serviceability

## LEADING SERVICE INTERVAL

More efficient cooling system which extend service intervals , minimize operating cost and reduce machine down time.

### CHANGE INTERVAL

Hydraulic oil	5000 hrs	
Hydraulic filter	1000 hrs	
Engine oil	500 hrs	<b>NEW</b>
Engine Filter	500 hrs	<b>NEW</b>



## IMPROVED COOLING EFFICIENCY

- Radiator and oil cooler are arranged in line to maximize efficiency
- Easily accessible from ground level to clean



## LARGE LCD MONITOR

Operator can check the machine's vital signs without any difficulties

- **Maintenance Management**  
Proactive maintenance
- **Self Diagnostic**  
Reduces down time
- **Warning Indicator**  
Ensures safe working

## DURABLE MOUNTING PIN BUSH



Hinged type front glass guard for easy cleaning

## EASY ACCESSIBILITY

Easy access for maintenance means regular checks get done faster. Hyundai's SMART machines feature easy service access to increase uptime and reduce operating costs.





# Safety

## SAFETY - PEACE OF MIND AND OPERATOR CONFIDENCE

Cabin is integrally welded with low-stress using high strength steel to provide enhanced protection. Handrails and steps are provided for easy operation. Engine fan guard avoid chances of accidental injury.



### COUNTER BALANCE VALVE

Works as a hydrostatic brake and prevents machine against accidental roll down in steep gradients.



### BOOM & ARM HOLDING SYSTEM

Prevent attachments from drifting against gravity due to prolonged overhanging.



### ANTI RESTART FUNCTION

Prevents starter from damage during engine operation



### BATTERY DISCONNECT SWITCH

Cut off power during maintenance and protect batteries from excessive drain



### AUTO ENGINE OVERHEAT PREVENTION

Auto Deceleration with activation of engine overheat warning to avoid catastrophic failure



# Parts & Support

## HYUNDAI GENUINE PARTS

Developed in synergy with our machines, Hyundai parts and lubricants ensure that you get the high levels of performance, reliability and safety that come with the complete Hyundai experience.

Enjoy the confidence and assurance of the most stringent testing procedures and the high quality manufacturing processes safeguarding your machine's health. Experience the versatility of our 200+ strong outlet network across India

### WHY RISK IT?

Maximize profits and extend your machine's life.



## BENEFITS OF USING GENUINE HYUNDAI PARTS AND LUBRICANTS

- Genuine Hyundai Parts meet strict specifications and standards in Chemistry, Microstructure and Tensile Strength.
- Benefit from the continuous improvements and advancements made by Hyundai's technical team
- Improved performance of hydraulics and engine components
- Enjoy greater productivity with higher uptime
- Higher resale values
- Reduced oil consumption and unexpected breakdowns
- Enhanced component life



Our unique remote management system allows customers to access machine operating information & obtain service & maintenance alerts at the touch of a button

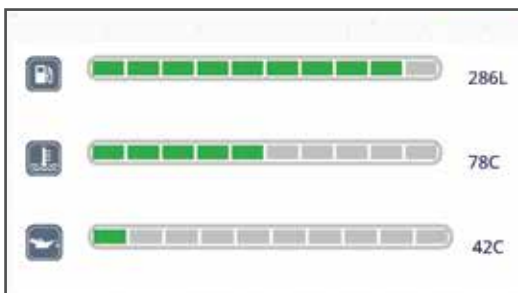


## INCREASED PRODUCTIVITY

Remote management system empowers you to enhance the efficiency of your operations. Make better decision by comparing the machine's operating time with its travelling idling & breaker use duration.

## CONVENIENT & EASY MONITORING

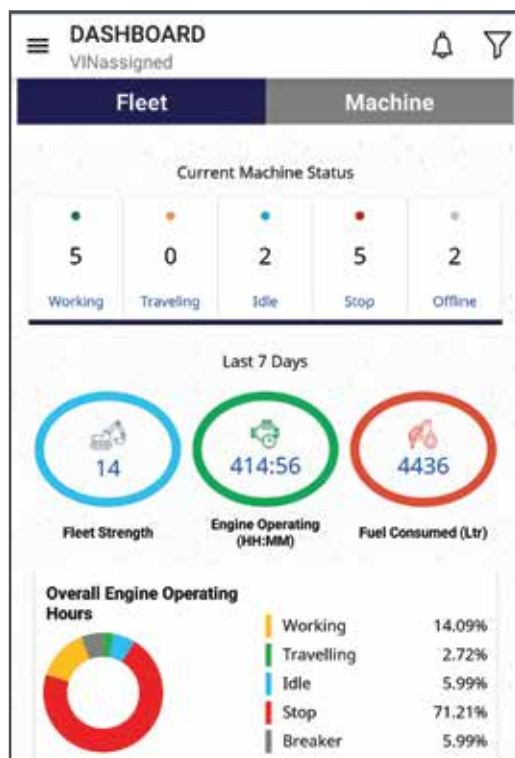
Enjoy round the clock and on the move access to your machine information through the website or mobile app.



## PROACTIVE MAINTENANCE

Access your machines service & maintenance history with the utmost convenience. Plan your service schedules intelligently with our regular reminders.

SELECT REPORTS	
Geo Zone In/Out Detail	<input checked="" type="radio"/>
Fault Code	<input type="radio"/>
Vehicle Usage Summary	<input type="radio"/>
Temperature Record	<input type="radio"/>



## ALARMS

Get notified of system alarms & protect your machine from critical faults & experience repairs.

## SECURITY & FLEET MONITORING

Protect your machine from theft or unauthorized use. GPS features allows you to create a geo-fence & alerts you if the machine moves out of the defined boundary.



# Specifications

## Engine

Maker/Model		Cummins6BTAA-5.9C	
Rated flywheel horse power	SAE	J1995 (Gross) J1349 (Net)	148HP (110KW) @2000rpm 145HP (108KW) @2000rpm
Max Torque		63.7Kgfm (462 lbf.ft) @1300rpm	

## Hydraulic System

Main pump	
Type	Two variable displacement piston pumps
Max. flow	2x220 lpm
Sub-pump for pilot circuit	Gear pump
Cross-sensing & fuel saving pump system	

## Hydraulic motors

Travel	Two speed axial piston motor with counter balance valve and parking brake
Swing	Axial piston motor with automatic brake

## Relief valve settings

Implement Circuit	330kgf/cm <sup>2</sup>
Travel	330kgf/cm <sup>2</sup>
Swing Circuit	240kgf/cm <sup>2</sup>
Pilot Circuit	35kgf/cm <sup>2</sup>
Service valve	Installed

## Coolant & Lubricant Capacity

REFILLING	LITER
Fuel tank	340
Engine coolant	35
Engine oil	21
Swing device	5
Final drive (each)	5.8
Hydraulic system / Hydraulic tank	290 / 180

## Drives & Brakes

Drive method	Fully hydrostatic type
Drive motor	Axial piston motor in-shoe design
Reduction system	Planetary reduction gear
Max.drawbar pull	21100kgf (46500 lbf)
Max.travel speed (high/low)	5.3kmph/3.4kmph
Grade ability	35 Degree (70%)
Parking brake	Multi wet disc

## Undercarriage

X-Leg type centre frame is integrally welded with reinforced box section track frames. The undercarriage includes lubricated rollers, idlers, track adjusters with shock absorbing spring and sprockets and trackchain with triple grouse shoes.

Centre frame	X-leg type
Track frame	Pentagonal box type
No. of shoes on each side	49
No. of carrier rollers each side	2
No. of track rollers each side	9
No. of rail guard each side	3

## Swing System

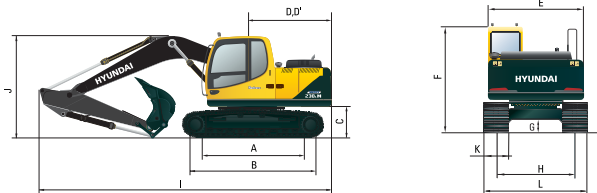
Swing motor	Axial piston motor
Swing reduction	Planetary gear reduction
Swing bearing lubrication	Grease bathed
Swing brake	Multi wet disc
Swing speed	11 rpm

## Operating Weight

Shoe Width mm (in)	Operating weight kg (lb)	Ground pressure kgf/cm <sup>2</sup> (psi)
600 mm (24")	23,300 (51,368)	0.50 (7.11)

## Dimensions

(mm)

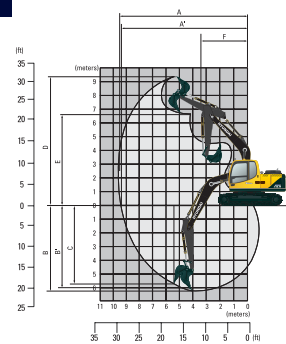


A	Tumbler distance	3640
B	Overall length of crawler	4440
C	Ground clearance of counter weight	1060
D	Tail swing radius	2830
D'	Rear-end length	2770
E	Overall width of upper structure	2700
F	Overall height of cabin	2920
G	Min. ground clearance	480
H	Track gauge	2390
I	Overall length	9570
J	Overall height of boom	3110
K	Track shoe width	600
L	Overall width	2900

## Working Ranges (mm)

Boom length (std.)	5680
Arm length (std.)	2400

A	Maximum Digging Reach.	9500
A'	Digging Reach on Ground.	9330
B	Max Digging Depth	6220
B'	Max- Digging Depth (8' level).	6010
C	Vertical Wall Digging Depth	5720
D	Maximum Digging Height	9340
E	Maximum Dumping Height.	6520
F	Minimum Swing Radius.	3740



Bucket Digging Force	15500 kgf
Arm Crowd Force	12000 kgf



# Lifting Capacities

## LIFTING CAPACITIES R230LM SMART PLUS



Rating over-front



Rating over-side

Boom: 5.68m (18'8") Arm: 2.40m (6'10") Bucket: 0.95m<sup>3</sup> (1.37yd<sup>3</sup>) SAE heaped Shoe: 600mm (24") Triple grouser with 4,800kg (9,259lb) counterweight

Load point height m (ft)		Load radius										At max. reach									
		.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)							
7.5m (25.0ft)	kg lb																	*3250 *7170	*3250 *7170	5.65 (15.5)	
6.0m (20.0ft)	kg lb							*3500 *7720	*3500 *7720									*3020 *6660	*3020 *6660	6.87 (22.5)	
4.5m (15.0ft)	kg lb							*3900 *8600	*3900 *8600	*3620 *7980	3300 7280							*3030 *6680	*3030 *6680	7.61 (25.0)	
3.0m (10.0ft)	kg lb					*6090 *13430	*6090 *13430	*4580 *10100	*4580 *10100	*3910 *8620	3130 6960							*3210 *7080	2810 6190	8.0 (26.2)	
1.5 m (5.0ft)	kg lb					*7520 *16580	*6790 *14970	*5300 *11680	4370 9630	*4260 *9390	3030 6680							*3570 *7870	2650 5840	8.09 (26.5)	
Ground Line	kg lb			*6270 *13820	*6270 *13820	*8300 *18300	6460 14240	*5830 *12850	4150 9150	*4530 *9990	2920 6440							*4230 *9330	2690 5930	7.89 (25.9)	
-1.5m (-5.0ft)	kg lb	*7460 *16450	*7460 *16450	*11150 *24580	*11150 *24580	*8400 *18520	6390 14090	*6000 *13230	4070 8970									*4620 *10190	2970 6560	7.39 (24.2)	
-3.0m (-10.0ft)	kg lb	*11920 *26280	*11920 *26280	*11460 *25260	*11460 *25260	*7840 *17280	6500 14330	*5610 *12370	4140 9130									*5010 *11050	3690 8140	6.49 (21.3)	
-4.5m (-15.0ft)	kg lb			*9000 *19840	*9000 *19840	*6200 *13670	*6200 *13670												*5390 *11880	*5390 *11880	5.01 (16.4)

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.





# Specifications

## BUCKETS

All buckets are welded with high-strength steel.

GENERAL PURPOSE	COAL BUCKET	HEAVY DUTY	ROCK BUCKET
			
1.05m <sup>3</sup> (1.37 yd <sup>3</sup> ) 1.20m <sup>3</sup> (1.57 yd <sup>3</sup> )	1.7m <sup>3</sup> (2.22 yd <sup>3</sup> )	0.95m <sup>3</sup> (1.25 yd <sup>3</sup> ) 0.87m <sup>3</sup> (1.14 yd <sup>3</sup> )	0.95m <sup>3</sup> (1.25 yd <sup>3</sup> )

Capacity m <sup>3</sup> (yd <sup>3</sup> )		Width mm (in)		Weight. kg (lb)	Recommendation mm (ft -in)
SAE heaped	CECE heaped	Without side cutters	With side cutters		5.68m (18' 8") Boom
1.05m <sup>3</sup> (1.37 yd <sup>3</sup> )	0.92m <sup>3</sup> (1.20yd <sup>3</sup> )	1250 (49.2")	1370 (53.9")	807 (1779)	●
1.20m <sup>3</sup> (1.57 yd <sup>3</sup> )	1.00m <sup>3</sup> (1.31yd <sup>3</sup> )	1400 (55.1")	1520 (59.8")	811 (1788)	▲
★ 1.7m <sup>3</sup> (2.22 yd <sup>3</sup> )	1.40m <sup>3</sup> (1.83yd <sup>3</sup> )	1550 (61.0")	-	890 (1962)	▲
◎ 0.95m <sup>3</sup> (1.25 yd <sup>3</sup> )	0.83m <sup>3</sup> (1.09yd <sup>3</sup> )	1240(48.8")	-	1053 (2321)	●
◎ 0.87m <sup>3</sup> (1.14 yd <sup>3</sup> )	0.75m <sup>3</sup> (0.98yd <sup>3</sup> )	1140 (44.9")	-	946 (2086)	●
◎ 0.95m <sup>3</sup> (1.25 yd <sup>3</sup> )	0.83m <sup>3</sup> (1.09yd <sup>3</sup> )	1240 (48.8")	1360 (53.5")	1026 (2262)	●

- \* : Standard backhoe bucket
- ◎ : Rock-Heavy Duty bucket
- ★ : Coal 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

Boom and arm are of all-welded with a low-stress, full-box section design. 5.68m (18' 8") mono boom and 2.4m (7' 10") Arm is available. Buckets are all-welded, high-strength steel implements.

Arm	Length	mm (ft.in)	*2,400 (7' 10")
	Weight	kg (lb)	990 (2180)
Bucket digging force	SAE	kN	133.4
		kgf	13,600
		lbf	29,980
	ISO	kN	152.0
		kgf	15,500
		lbf	34,170
Arm crowd force	SAE	kN	112.8
		kgf	11,500
		lbf	25,350
	ISO	kN	117.7
		kgf	1,200
		lbf	26,460

\*: Standard Arm (Arm weight including cylinder and linkage)



# Standard / Optional List

## Standard Equipment

ISO standard cabin  
 All-weather steel cab with all-around visibility  
 Safety glass windows  
 Sliding fold-in front window  
 Sliding side window  
 Air-conditioner (5000kcal/hr, 20000 BTU/hr)  
 Accessory box & Ashtray

### Computer Aided Power Optimization (New CAPO) system

3-power mode, 2-work mode  
 Auto deceleration & one touch deceleration system  
 Auto engine overheat prevention system  
 Self diagnostic system  
 Centralized monitoring

LCD display  
 Engine speed  
 Clock & Error code  
 Mobile charging point  
 Fuel level gauge  
 Engine coolant temperature gauge  
 Hyd. oil temperature gauge

### Warning

Fuel level  
 CPU  
 Engine oil pressure  
 Engine coolant temperature  
 Hyd. oil temperature  
 Low battery  
 Air cleaner clogging  
 Door and cab locks, one key  
 One outside rearview mirror  
 Dual channel fully adjustable suspension seat  
 Slidable joystick, pilot-operated  
 Two front working lights and two cabin work 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  
 Boom holding system  
 Arm holding system  
 Counter weight (4800kg)  
 Mono boom (5.68m, 18' 8") HD  
 Arm (2.4m, 7' 10") HD  
 Standard bucket (0.95m<sup>3</sup>, 1.25 yd<sup>3</sup>) Marble/Granite  
 Track shoes (600mm, 24")HD 12.5mm thick  
 Track rail guard  
 Cabin front protector  
 Radio / USB player  
 Operator kit  
 Tool kit  
 Remote management system (Hi-Track)

## Optional Equipment

Sun visor for cabin inside  
 Beacon lamp  
 Single acting piping kit

### Various optional Buckets (SAE heaped)

GP bucket (1.20 m<sup>3</sup>, 1.57 yd<sup>3</sup>)  
 GP bucket (1.05 m<sup>3</sup>, 1.37 yd<sup>3</sup>)  
 Rock heavy duty bucket (0.95 m<sup>3</sup>, 1.25 yd<sup>3</sup>)  
 Rock heavy duty bucket (0.87 m<sup>3</sup>, 1.14 yd<sup>3</sup>)  
 Coal bucket (1.7 m<sup>3</sup>, 2.2 yd<sup>3</sup>)  
 FOG (Falling Object Guard)  
 Starting Aid (Air-grid heater, cold weather)  
 Travel alarm  
 Operator seat belt  
 Fire extinguisher

