

# R230LM SMART X PLUS



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# DESIGNED FOR SMART WORK

### R230LM SMART X PLUS

#### **BEST-IN-CLASS PERFORMANCE**

- Cyclonic Air Precleaner NEW
- Wide Range of Bucket NEW
- Adanced CAPO System
- Hydraulic Flow Summation
- Swing Priority
- Regeneration System
- Excellent Digging Forces

#### **OPERATOR COMFORT**

- Bluetooth FM Radio NEW
- LED Working Lamps NEW
- Premium Cabin NEW
- HVAC NEW
- Cold Storage Box NEW
- Enhanced Cooling Efficiency
   10% NEW
- Spacious Cabin
- Fully Adjustable Seat
- Enhanced Visibility
- User-friendly Functionality

### INCREASED MACHINE DURABILITY

- Superior Lubrication and Wear Protection (NEW)
- Polymer Shim NEW
- Stub Adapter NEW
- Strengthend Undercarriage
- Proven Upper Structure
- Forged Ring Body
- Heavy Duty Front Attachment



#### IMPROVED FUEL EFFICIENCY

- New ECO Mode
- Fuel Saving Kit
- Electro Hydraulic System
- Auto Deceleration System
- Efficient Breaker Mode

#### SIMPLIFIED MAINTENANCE

- Fuel Filler Pump NEW
- Easy Serviceability
- Extended Maintenance
- Large Capacity Fluid Tank
- Low Life Cycle Cost

#### **PARTS & SUPPORT**

- 4G Remote Management System (Hi-Track)
- Hyundai Genuine Parts
- Max Parts Availability
- On-site Product Support

#### **ENHANCED SAFETY**

- Emergency Shutdown Switch\*
- Turbocharge guard
- Cabin Top Guard\* NEW
- Beacon Lamp\* NEW
- Swing Lock\* NEW
- Seat Belt\*

(\* Option)

### **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



### R230LM SMART X PLUS







#### 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.





#### **EFFICIENT COMBINED OPERATION**

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

#### **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	
P Mode	Maximum Power     Fast Cycle time      Balance between power and fuel efficiency      Better fuel efficiency	
S Mode		
Eco Mode		
Breaker Mode	Sets pump flow to optimal level and boosts efficiency	



#### **BEST-IN-CLASS TRAVEL PERFORMANCE**

- Higher traction force
- Dual travel option
- High maneuverability

Traction Force: 21100 kgf



#### **DIGGING FORCES**

Higher output even in tough working conditions

- Bucket -16000 kgf
- Arm -12600 kgf

**COMFORT INTELLIGENCE™** 

### **FUEL EFFICIENCY**



#### IMPROVED FUEL EFFICIENCY

 $\label{lem:continuous} Advanced\ CAPO\ System,\ Newly\ Designed\ CMCU,\ Power\ \&\ Working\ Mode\ options\ results\ in\ excellent\ fuel\ efficiency.$ 

#### **FUEL SAVING KIT**

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

#### **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





#### **ARM REGENERATION SYSTEM**

- Smooth Operation
- Prevent Cavitation
- Increased Performance & Fuel Efficiency



### **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
- Operator seat belt

#### SPACIOUS CABIN

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

#### LED LAMP NEW



#### SUN VISOR (OPTIONAL)



### INTEGRATED AUDIO SYSTEM WITH BLUETOOTH NEW



### **OPERATOR COMFORT**

#### **CABIN ENHANCEMENT**

- Enhanced Cooling Capacity by 10%
- Enhanced Cooling Efficiency by 10%
- Controller with Temperature Adjustment
- HVAC { Cooling + Heating }

- Interior- Premium { Automotive Styling }
- AC Ducts-Side Wall & Foot
- Hot / Cold Box
- New Premium Floor Mat

#### **HOT & COLD STORAGE BOX**



#### **AC DUCT SIDE WALL & LEG COOLING**



#### **AC CONTROL PANEL**



### **RELIABILITY**



#### REINFORCED FRONT STRUCTURE

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

#### HEAVY DUTY BUCKET WITH STUB ADAPTER NEW

#### **ULTIMATE RELIABILITY**









Reinforced idler frame

Lower frame belly guard

1 pc cast H link

Reinforced bucket link







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











#### **RELIABLE ELECTRICALS**

- Dust and water proof connectors
- Longer component life



#### AIR PRE-CLEANER NEW

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



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	
Engine Filter	500 hrs	



#### 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

### HINGED TYPE FRONT GLASS GUARD FOR EASY CLEANING

#### **EASY ACCESSIBILITY**

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



#### IMPROVED COOLING EFFICIENCY

- Radiator and oil cooler are arranged side by side to maximize efficiency
- Easily accessible from ground level to

### DURABLE MOUNTING PIN BUSH



FUEL FILLER
PUMP NEW









### **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.









# 20

#### 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 avoide catastrophic failure



#### EMERGENCY SHUTDOWN SWITCH NEW

Stop the excavator's operation in case of an emergency



#### TURBOCHARGE GUARD NEW

Safety During Maintenance



GREASE NIPPLE WITH CAP NEW



POSITIVE LOCKING
CLAMP NEW



FIRE EXTINGUISHER NEW

### **PARTS & SUPORT**

#### 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

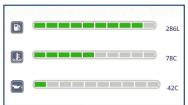




### HI-TRACK

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





#### **PROACTIVE MAINTENANCE**

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



#### **ALARMS**

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



#### 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.

MULTINGUAL USER INTERFACE NEW

IMPROVED DATA CONNECTIVITY NEW

#### **CONVENIENT & EASY MONITORING**

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



#### **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 Cummins6BTAA-5.9C Maker/Model Rated flywheel J1995 (Gross) 148HP (110KW) @2000rpm 145HP (108KW) @2000rpm horse J1349 (Net) power

63.7Kgfm (462 lbf.ft) @1300rpm Max Torque

#### Hydraulic System

Main pump	
Туре	Two variable displacement piston pumps
Max. flow	2x220 <b>l</b> pm
Sub-pump for pilot ciruit	Gear pump
Cross-sensing & fuel saving	numn 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/cm²
Pilot Circuit	35kgf/cm <sup>2</sup>
Service valve	Installed

#### Coolant & Lubricant Capacity

LITER 340
35
21
5
6.0
280 / 150

#### 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 rnm

### Operating Weight

Shoe Width mm (in)	Operating weight kg ( <b>I</b> b)	Ground pressure kgf/cm2 (psi)
600 mm (24")	23,300 (51,368)	0.50 (7.11)

# Dimensions (mm)

Α	Tumbler distance	3640
В	Overall length of crawler	4440
C	Ground clearance of counter weight	1060
D	Tail swing radius	2845
D'	Rear-end length	2770
Е	Overall width of upper structure	2700
F	Overall height of cabin	2920
G	Min. ground clearance	480
Н	Track gauge	2390
1	Overall length	9620
J	Overall height of boom	3180
K	Track shoe width	600
L	Overall width	2990

### **SPECIFICATIONS**

Woı	Working Ranges (mm)		
А	.rm length (std.)	*2400	2920
А	Max. digging reach	9,476 (31'1")	9,952 (32'8")
A'	Max. digging reach on ground	9,311 (30'7")	9,795 (32'2")
В	Max. digging depth	6,222 (20'5")	6,742 (22'1")
B'	Max. diggign depth(8ft level)	6,014 (19'9")	6,563 (21'6")
С	Max. Vertical wall digging depth	5,190 (17'0")	5,828 (19'1")
D	Max. digging height	9,269 (30'5")	9,524 (31'3")
E	Max. dumping height	6,487 (21'3")	6,727 (22'1")
F	Min. swing radius	3,658 (12'0")	3,673 (12'1")

(ft) 35 30 25 20 15 10 35 30 30 30 30 30 30 30 30 30 30 30 30 30
Bucket Digging Force 16000 kgf
A C (2.4)

Arm Crowd Force (2.4 m) 12600 kgf

#### **BUCKETS**

All buckets are welded with high-strength steel.

# **GENERAL PURPOSE**



						Recommendation			
	Capacity - M3		Width - mm	Weight - kg	Tooth EA	5.68m Boom			
			wiath - mm		IOOUITEA	4.4T CWT			
Bucket Type	SAE Heaped	CECE heaped				2.4m Arm	2.92m Arm		
GP	1.05	0.88	1132	803	5	•	•		
GP	1.20	0.92	1283	802	5	•	•		
GP	0.87	1.05	966	982	5	•			
HD	0.95	0.76	1091	1063	5				
HD	1.10	0.81	1256	1127	5	•	•		
HD	1.20	0.88	1304	1149	5	•			
Scoop	0.95		1095	1263	5	•	•		

- : Applicable for materials with density of ≤ 2,000 kg/m³
- ■: Applicable for materials with density of  $\leq 1,600 \text{ kg/m}^3$
- ▲: Applicable for materials with density of  $\leq 1,100 \text{ kg/m}^3$

### **SPECIFICATION**

#### **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.

	Length	mm(ft.in)	*2400(7'10")	2920(9'7")		
Arm	Weight	kg(lbs)	718(1583)	735(1620)		
		kN	134	134		
	SAE	kgf	13,600	13,600		
Bucket Digging Force		lbf	30,000	30,000		
		kN	157	157		
	ISO	kgf	16,000	16,000		
		lbf	35,200	35,200		
		kN	118	99		
	SAE	kgf	12,000	10,100		
Arm Crowd Force		lbf	26,500	22,300		
		kN	124	104		
	ISO	kgf	12,600	10,600		
		lbf	27,800	23,300		

<sup>\*</sup>Standard arm

### LIFTING CAPACITIES

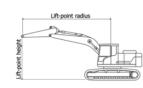
#### LIFTING CAPACITIES R230LM SMART PLUS



Boom type	Length[mm]	Arm type	Length[mm		ie C	apa.[m³]	CWT[kg]			Shoe(wheel)[mm]				
HD	5680	HD   2400   HD   1.20   4400						600						
106 mateur		Lift-point radius									At max. reach  Capacity Reach			
Lift-point height (m/ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (	6.0m (19.7ft)		7.5m (24.6ft)		Capacity			
		ů	<u>=</u>	-	<u></u>	ı.	<b>=</b>	Ů	<u></u>	Ů	<b>=</b>	m(ft)		
7.5m	kg									*4,810	*4,810	5.51		
24.6ft	lb									*10,600	*10,600	(18.1)		
6.0m	kg					*4,600	*4,600			*4,700	4,030	6.77		
19.7ft	lb					*10,140	*10,140			*10,360	8,880	(22.2)		
4.5m	kg			*5,800	*5,800	*4,980	4,810	*4,740	3,340	*4,740	3,320	7.52		
14.8ft	lb			*12,790	*12,790	*10,980	10,600	*10,450	7,360	*10,450	7,320	(24.7)		
3.0m	kg			*7,420	6,890	*5,690	4,560	*4,950	3,260	*4,870	2,990	7.92		
9.8ft	lb			*16,360	15,190	*12,540	10,050	*10,910	7,190	*10,740	6,590	(26.0)		
1.5m	kg			*8,860	6,400	*6,410	4,320	*5,280	3,160	4,900	2,860	8.02		
4.9ft	lb			*19,530	14,110	*14,130	9,520	*11,640	6,970	10,800	6,310	(26.3)		
0.0m	kg			*9,530	6,170	*6,900	4,170	5,330	3,080	5,020	2,910	7.82		
0.0ft	lb			*21,010	13,600	*15,210	9,190	11,750	6,790	11,070	6,420	(25.7)		
-1.5m	kg	*9,940	*9,940	*9,470	6,140	*6,990	4,120			5,510	3,180	7.32		
-4.9ft	lb	*21,910	*21,910	*20,880	13,540	*15,410	9,080			12,150	7,010	(24.0)		
-3.0m	kg	*12,200	*11,970	*8,730	6,240	*6,400	4,190			*5,780	3,860	6.42		
-9.8ft	lb	*26,900	*26,390	*19,250	13,760	*14,110	9,240			*12,740	8,510	(21.1)		
-4.5m	kg	*9,370	*9,370	*6,640	6,540					*5,820	5,790	4.93		
-14.8ft	lb	*20,660	*20,660	*14,640	14,420					*12,830	12,760	(16.2)		

Boom type	Length[mm]	Arm	Arm type Lengt		Length[mm] BK type		C	Capa.[m³]		CWT[kg]		Shoe(wheel)[mm]		
HD	5680	G	P 2920			HD 1.20			4400			600		
Lift-point height (m/ft)		Lift-point radius										At max. reach		
		1.5m (4.9ft)		3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach
					ı⊫©)			Ů	œ <b>₽</b>				<b>=</b>	m(ft)
7.5m	kg							*4,230	*4,230			*3,580	*3,580	6.19
24.6ft	lb							*9,330	*9,330			*7,890	*7,890	(20.3)
6.0m	kg							*4,120	*4,120			*3,300	*3,300	7.33
19.7ft	lb							*9,080	*9,080			*7,280	*7,280	(24.0)
4.5m	kg							*4,570	*4,570	*4,340	3,410	*3,220	3,020	8.03
14.8ft	lb							*10,080	*10,080	*9,570	7,520	*7,100	6,660	(26.3)
3.0m	kg					*6,800	*6,800	*5,330	4,640	*4,660	3,300	*3,290	2,740	8.40
9.8ft	lb					*14,990	*14,990	*11,750	10,230	*10,270	7,280	*7,250	6,040	(27.6)
1.5m	kg					*8,410	6,540	*6,140	4,380	*5,070	3,180	*3,480	2,630	8.49
4.9ft	lb					*18,540	14,420	*13,540	9,660	*11,180	7,010	*7,670	5,800	(27.9)
0.0m	kg					*9,350	6,230	*6,750	4,190	5,320	3,080	*3,860	2,660	8.31
0.0ft	lb					*20,610	13,730	*14,880	9,240	11,730	6,790	*8,510	5,860	(27.3)
-1.5m	kg	*5,930	*5,930	*9,670	*9,670	*9,560	6,130	6,990	4,100	5,280	3,040	*4,520	2,870	7.84
-4.9ft	lb	*13,070	*13,070	*21,320	*21,320	*21,080	13,510	15,410	9,040	11,640	6,700	*9,960	6,330	(25.7)
-3.0m	kg	*10,410	*10,410	*13,140	11,830	*9,090	6,180	*6,700	4,130			*5,430	3,380	7.01
-9.8ft	lb	*22,950	*22,950	*28,970	26,080	*20,040	13,620	*14,770	9,110			*11,970	7,450	(23.0)
-4.5m	kg			*10,810	*10,810	*7,620	6,390					*5,650	4,650	5.68
-14.8ft	lb			*23,830	*23,830	*16,800	14,090					*12,460	10,250	(18.6)

- Notes: 1. Lifting capacity are based on ISO 10567.
  - 2. Lifting capacity of the Robex Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
  - 3. The Lift-point is bucket pivot mounting pin on the arm(without bucket mass).
  - 4. (\*) indicates load limited by hydraulic capacity.



# 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
HVAC Air Conditioner
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 Indicator
Engine Coolant Temperature Indicator
Hyd. Oil Temperature Indicator

#### 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

LED Working Lamps

Cyclonic Pre Air Cleaner

Electric Horn

Battries ( 2 x 12Vx 100AH )

**Battery Master Switch** 

Removable Clean out Screen For Oil Cooler

Automatic Swing Brake

24V Power Socket
Fuel Pre-filter
Turbocharge Guard
Boom Holding System
Arm Holding System
Counter Weight (4400 kg)
Mono Boom (5.68m, 18'8") HD
Arm (2.4m,7'10") HD
Standard Bucket (1.2 HD m³)
Track Shoes (600mm, 24") HD 12mm thick
Track Rail Guard
Cabin Front Protector
Bluetooth FM Radio/USB player

Remote Management System (Hi-Track)

#### **Optional Equipment**

Fuel Refilling Pump

Operator Kit

Removable Reservior Tank

Sun Visor For Cabin Inside Beacon Lamp Single Acting Piping Kit Travel Alarm **Operator Seat Belt** Emergency Shutdown Switch Cabin Top Guard Swing Lock Fire Extinguisher Starting Aid (Air-grid heater, cold weather) Various Optional Buckets & Attachments General Purpose bucket (1.2 m<sup>3</sup>) General Purpose bucket (1.05 m<sup>3</sup>) Heavy Duty Bucket (1.1 m<sup>3</sup>) Heavy Duty Bucket (0.95 m3) Heavy Duty Bucket (0.87 m3) Scoop Bucket (0.95 m<sup>3</sup>) Rock Breaker Clamshell Bucket **Quick Coupler** Orange Grapple

### **NOTES**