

# R220LS SMART X PLUS

Hyundai Construction Machinery

\* Photo may include optional equipment.



Head Office(Sales Office)  
14F, GLOBAL R&D CENTER, 477 BUNDANG SUSEO-RO, BUNDANG-GU, SEONGNAM-SI, GYEONGGI-DO, 13553, KOREA

PLEASE CONTACT

Gross Power  
148 HP @ 2000 rpm

Bucket Capacity  
0.95 ~ 1.05 m<sup>3</sup>

Operating Weight  
22000 kgs

# DESIGNED FOR SMART WORK

# R220LS

## SMART X PLUS

### BEST-IN CLASS PERFORMANCE

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



### 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



### INCREASED MACHINE DURABILITY

- Strengthened undercarriage
- Proven upper structure
- Forged ring body
- Reinforced 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-Mate)



# RELIABILITY



## REINFORCED FRONT STRUCTURE

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

## ULTIMATE RELIABILITY



Reinforced idler frame



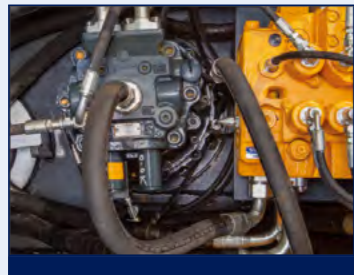
Lower frame belly guard



1 pc cast H link



Reinforced bucket link



HD TRACK LINK



ROCK GUARD

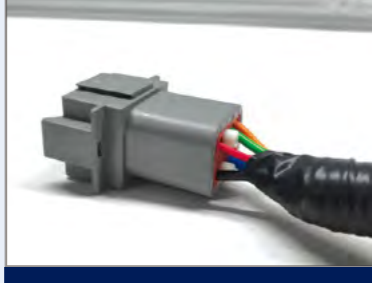


TANK SAFETY COVER



## 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



**New!**

Hinged type front glass guard for easy cleaning

## EASY ACCESSIBILITY

Easy access for maintenance means regular checks get done faster. Hyundai's SMART PLUS 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.



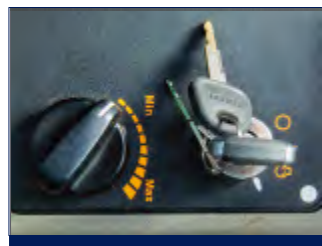
### COUNTER BALANCE VALVE

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



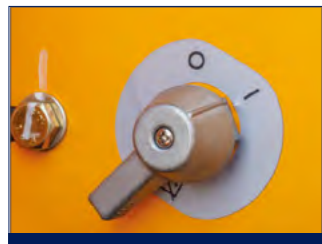
### BOOM & ARM HOLDING SYSTEM

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

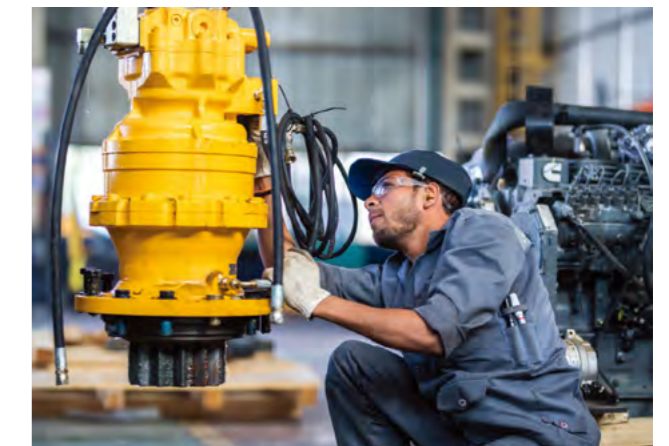
### WHY RISK IT?

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

HI MATE empowers you to enhance the efficiency of your operations. Make better decisions by comparing the machine's operating time with its travelling, idling & breaker use duration.

## CONVENIENT & EASY MONITORING

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



## SECURITY & FLEET MONITORING

Protect your machines from theft or unauthorized use. HI MATE's GPS feature allows you to create a geo-fence & alerts you if the machine moves out of the defined boundary.

**Maintenance Scheduler**

Item	Maintenance Interval	Default	Setting	Total	All the last maintenance	Recalculate Date	Next maintenance due	Alert
Engine Oil	500	62	22	838	29-Mar-2018	29-Mar-2018	1800	OK
Travel Reduction Gear Case	1,000	300	6	600	19-Jan-2018	19-Jan-2018	300	OK
Swing Reduction Gear Case	1,000	200	0	400	19-Jan-2018	19-Jan-2018	500	OK
Hydraulic Oil	5,000	350	4	154	07-Feb-2018	07-Feb-2018	150	OK
Pilot Line Filter	1,000	220	0	540	02-Feb-2018	02-Feb-2018	120	OK
Hydraulic Tank Drain Filter	1,000	220	0	540	02-Feb-2018	02-Feb-2018	120	OK

## PROACTIVE MAINTENANCE

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

**Alarm Notice**

Date	Time	Message	Alarm Type	Alarm Code (9999)	Description	Callback
15-Apr-2018	07:16	010	W	001	Oilwarning Fuel level low	
14-Apr-2018	17:39	009	W	001	Oilwarning Fuel level low	
14-Apr-2018	11:23	491	W	003	Oilwarning Fuel level low	
10-Apr-2018	07:14	484	W	006	Oilwarning Battery Voltage low	
08-Apr-2018	07:41	476	W	003	Oilwarning Fuel level low	
08-Apr-2018	06:58	479	W	003	Oilwarning Fuel level low	
08-Apr-2018	11:34	469	W	011	Oilwarning Engine Oil Pressure low	

## ALARMS

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

## Engine

<b>Maker/Model</b>		Cummins6BTAA-5.9C	
Rated flywheel horse power	SAE	J1995 (Gross) J1349 (Net)	148 HP (110KW) @2000rpm 145 HP (108KW) @2000rpm
Max Torque	63.7gfm @1300 rpm		
Displacement	5800cc		

## Hydraulic System

<b>Main pump</b>	
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 axis 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	25.5
Engine oil	21
Swing device	5
Final drive (each)	5.8
Hydraulic system / Hydraulic tank	260 / 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
Gradeability	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	2

## 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")	22,000 (48,502)	0.47 (6.68)

## Dimensions

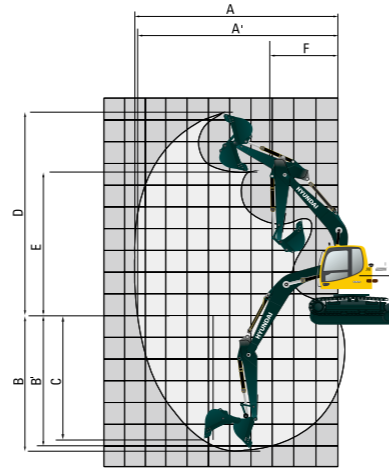
Dimension	(mm)
A Tumbler distance	3640
B Overall length of crawler	4440
C Ground clearance of counter weight	1060
D Tail swing radius	2830
D' Rear-end length	2770
E Overall width of upper structure	2700
F Overall height of cabin	2920
G Min. ground clearance	480
H Track gauge	2390
I Overall length	9570
J Overall height of boom	3110
K Track shoe width	600
L Overall width	2990

# SPECIFICATIONS

## Working Ranges

(mm)

Arm length		2000	*2400	2920
A	Max. digging reach	9,105(29'10")	9,474(31'1")	9,945(32'8")
A'	Max. digging reach on ground	8,928(29'4")	9,305(30'6")	9,783(32'1")
B	Max. digging depth	5,680(18'8")	6,079(19'11")	6,600(21'8")
B'	Max. diggign depth(8ft level)	5,448(17'11")	5,876(19'3")	6,424(21'1")
C	Max. Vertical wall digging depth	4,743(15'7")	5,094(16'9")	5,726(18'9")
D	Max. digging height	9,225(30'3")	9,433(30'11")	9,685(31'9")
E	Max. dumping height	6,424(21'1")	6,635(21'9")	6,873(22'7")
F	Min. swing radius	3,759(12'4")	3,573(11'9")	3,508(11'6")

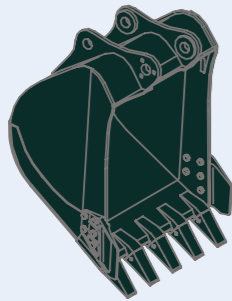


Bucket Digging Force 15729 kgf  
Arm Crowd Force(2.4m) 12571 kgf

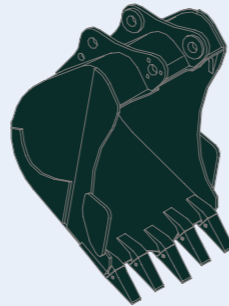
## BUCKETS

All buckets are welded with high-strength steel.

### GENERAL PURPOSE



### HEAVY DUTY



Capacity - M <sup>3</sup>			Width - mm	Weight - kg	Tooth EA	Recommendation		
Bucket Type	SAE Heaped	CECE heaped				5.68m Boom 3.8t CWT		
			2.0m Arm	2.4m Arm	2.92m Arm			
GP	0.92	0.81	1148	758	5	●	●	●
GP	1.20	1.06	1398	790	5	■	■	▲
GP	1.00	0.88	1232	797	5	●	●	■
GP	1.05	0.92	1248	803	5	●	■	■
HD	0.87	0.77	1147	926	5	●	●	■
HD	0.92	0.81	1220	978	5	●	●	■
HD	0.95	0.84	1270	1056	5	●	●	■
HD	1.10	0.97	1435	1112	5	■	■	▲

● : Applicable for materials with density of 2,100 kg/m<sup>3</sup> (3,500 lb/yd<sup>3</sup>) or less  
● : Applicable for materials with density of 1,800 kg/m<sup>3</sup> (3,000 lb/yd<sup>3</sup>) or less

■ : Applicable for materials with density of 1,500 kg/m<sup>3</sup> (2,500 lb/yd<sup>3</sup>) or less  
▲ : Applicable for materials with density of 1,200 kg/m<sup>3</sup> (2,000 lb/yd<sup>3</sup>) or less  
x : Not Recommended

# SPECIFICATIONS

## ATTACHMENT

Boom and arm are of all-welded with a low-stress, full-box section desing. 5.68m (18'8) mono boom and 2.m (6'7"), 2.4m (7,10") 2.92m(97") Arm are available. Buckets are all-welded, high-steel implements.











	Length	mm(ft.in)	2,000 (6'7")	*2,400 (7'10")	2,920 (9'7")
Arm	Weight	kg(lb)	614 (1,354)	718 (1,583)	735 (1,620)
Bucket Digging Force	SAE	kN	133	133	134
		kgf	13,591	13,596	13,646
		lbf	29,963	29,973	30,084
	ISO	kN	154	154	155
		kgf	15,724	15,729	15,788
		lbf	34,666	34,677	34,806
Arm Crowd Force	SAE	kN	140	118	99
		kgf	14,290	11,995	10,111
		lbf	31,504	26,445	22,292
	ISO	kN	148	123	103
		kgf	15,065	12,571	10,543
		lbf	33,213	27,715	23,244











Note: Arm weight includes cylinder and linkage  
\*Standard arm

# LIFTING CAPACITIES













## LIFTING CAPACITIES R215 SMART PLUS

 Rating over-front  Rating over-side

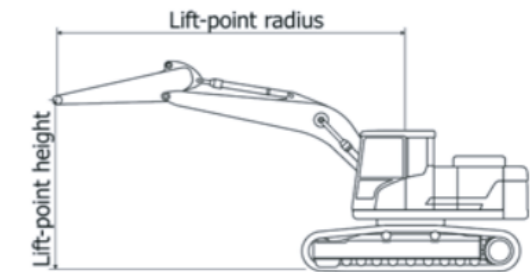
Boom type	Length[mm]	Arm type	Length[mm]	BK type	Capa.[m³]	QC	Swing Post	CWT[kg]	Shoe(wheel)	Outrigger[F]	Outrigger[R]	Cabin type
GP	5680	GP	2000	GP	1.05	NO	NO	3800	600[mm]	NONE	NONE	CABIN
Lift-point height (m/ft)	Lift-point radius								At max. reach			
	3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach	
											m(ft)	
7.5m 24.6ft	kg									*5,520	*5,520	4.97
	lb									*12,170	*12,170	(16.3)
6.0m 19.7ft	kg					*5,200	4,530			*5,250	4,120	6.33
	lb					*11,460	9,990			*11,570	9,080	(20.8)
4.5m 14.8ft	kg			*6,590	*6,590	*5,500	4,410			*5,230	3,340	7.13
	lb			*14,530	*14,530	*12,130	9,720			*11,530	7,360	(23.4)
3.0m 9.8ft	kg					*6,150	4,190	5,280	3,000	5,230	2,970	7.54
	lb					*13,560	9,240	11,640	6,610	11,530	6,550	(24.7)
1.5m 4.9ft	kg					*6,780	3,990	5,190	2,930	5,050	2,850	7.64
	lb					*14,950	8,800	11,440	6,460	11,130	6,280	(25.1)
0.0m 0.0ft	kg			*9,740	5,770	*7,120	3,880			5,210	2,920	7.43
	lb			*21,470	12,720	*15,700	8,550			11,490	6,440	(24.4)
-1.5m -4.9ft	kg			*9,370	5,790	*6,980	3,870			5,830	3,240	6.89
	lb			*20,660	12,760	*15,390	8,530			12,850	7,140	(22.6)
-3.0m -9.8ft	kg	*10,990	*10,990	*8,230	5,930					*5,960	4,070	5.93
	lb	*24,230	*24,230	*18,140	13,070					*13,140	8,970	(19.4)
-4.5m -14.8ft	kg											
	lb											

Boom type	Length[mm]	Arm type	Length[mm]	BK type	Capa.[m³]	QC	Swing Post	CWT[kg]	Shoe(wheel)	Outrigger[F]	Outrigger[R]	Cabin type
GP	5680	GP	2400	GP	1.05	NO	NO	3800	600[mm]	NONE	NONE	CABIN
Lift-point height (m/ft)	Lift-point radius								At max. reach			
	3.0m (9.8ft)		4.5m (14.8ft)		6.0m (19.7ft)		7.5m (24.6ft)		Capacity		Reach	
											m(ft)	
7.5m 24.6ft	kg									*5,000	*5,000	5.53
	lb									*11,020	*11,020	(18.1)
6.0m 19.7ft	kg					*4,770	4,570			*4,840	3,700	6.78
	lb					*10,520	10,080			*10,670	8,160	(22.2)
4.5m 14.8ft	kg			*6,050	*6,050	*5,150	4,420	*4,850	3,060	*4,850	3,040	7.52
	lb			*13,340	*13,340	*11,350	9,740	*10,690	6,750	*10,690	6,700	(24.7)
3.0m 9.8ft	kg			*7,650	6,330	*5,830	4,180	*5,040	2,980	4,830	2,730	7.92
	lb			*16,870	13,960	*12,850	9,220	*11,110	6,570	10,650	6,020	(26.0)
1.5m 4.9ft	kg			*9,030	5,870	*6,530	3,950	5,150	2,880	4,670	2,610	8.01
	lb			*19,910	12,940	*14,400	8,710	11,350	6,350	10,300	5,750	(26.3)
0.0m 0.0ft	kg			*9,600	5,680	*6,970	3,810	5,080	2,810	4,790	2,660	7.81
	lb			*21,160	12,520	*15,370	8,400	11,200	6,190	10,560	5,860	(25.6)
-1.5m -4.9ft	kg	*9,680	*9,680	*9,430	5,660	*6,970	3,770			5,280	2,920	7.30
	lb	*21,340	*21,340	*20,790	12,480	*15,370	8,310			11,640	6,440	(24.0)
-3.0m -9.8ft	kg	*11,800	11,130	*8,540	5,770	*6,260	3,860			*5,650	3,560	6.40
	lb	*26,010	24,540	*18,830	12,720	*13,800	8,510			*12,460	7,850	(21.0)
-4.5m -14.8ft	kg			*6,220	6,070					*5,490	5,420	4.89
	lb			*13,710	13,380					*12,100	11,950	(16.0)

# LIFTING CAPACITIES

Boom type	Length[mm]	Arm type	Length[mm]	BK type	Capa.[m³]	QC	Swing Post	CWT[kg]	Shoe(wheel)	Outrigger[F]	Outrigger[R]	Cabin type		
GP	5680	GP	2920	GP	1.05	NO	NO	3800	600[mm]	NONE	NONE	CABIN		
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	
													m(ft)	
7.5m 24.6ft	kg									*4,400	*4,400		6.19	
	lb									*9,700	*9,700		(20.3)	
6.0m 19.7ft	kg									*4,290	*4,290		7.33	
	lb									*9,460	*9,460		(24.0)	
4.5m 14.8ft	kg									*4,750	4,510	*4,460	3,120	8.02
	lb									*10,470	9,940	*9,830	6,880	(26.3)
3.0m 9.8ft	kg							*7,060	6,540	*5,500	4,260	*4,780	3,020	8.39
	lb							*15,560	14,420	*12,130	9,390	*10,540	6,660	(27.5)
1.5m 4.9ft	kg							*8,620	6,030	*6,290	4,020	*5,160	2,900	8.48
	lb							*19,000	13,290	*13,870	8,860	*11,380	6,390	(27.8)
0.0m 0.0ft	kg							*5,110	*5,110	*9,490	5,750	*6,850	3,850	8.29
	lb							*11,270	*11,270	*20,920	12,680	*15,100	8,490	(27.2)
-1.5m -4.9ft	kg	*5,680	*5,680	*9,430	*9,430	*9,600	5,670	7,010	3,780	5,050	2,790	4,770	2,640	7.82
	lb	*12,520	*12,520	*20,790	*20,790	*21,160	12,500	15,450	8,330	11,130	6,150	10,520	5,820	(25.6)
-3.0m -9.8ft	kg	*10,230	*10,230	*12,880	11,040	*9,000	5,730	*6,630	3,810					6.98
	lb	*22,550	*22,550	*28,400	24,340	*19,840	12,630	*14,620	8,400					(22.9)
-4.5m -14.8ft	kg			*10,310	*10,310	*7,340	5,940							5.63
	lb			*22,730	*22,730	*16,180	13,100							(18.5)

- Notes:
- Lifting capacity are based on ISO 10567.
  - 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.
  - The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
  - (\*) indicates load limited by hydraulic capacity.



# STANDARD / OPTIONAL LIST

# NOTES

## 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  
24V Power Socket

Fuel pre-filter  
Boom holding system  
Arm holding system  
Counter weight (3800kg)  
Radio / USB player  
Mono boom (5.68m, 18' 8")  
Arm (2.4m, 7' 10") 2.m(6'7"),  
Standard bucket (1.05GP m<sup>3</sup>, 1.37 yd<sup>3</sup>)  
Track shoes (600mm, 24")  
Track rail guard  
Cabin front protector  
Operator kit  
Tool kit  
Remote management system (HI-MATE)

## Optional Equipment

Fuel Refilling Pump  
Beacon lamp  
Single acting piping kit  
Sun visor for cabin inside

## Various optional Arms (SAE heaped)

Arm 2.0 m (6'7") & 2.92 m, (9'7")  
Remote management system (Hi-Mate)  
Travel alarm  
Operator seat belt  
Fire extinguisher  
Rock Breaker