

HIDROMEK

HMK
220 LC
220 LC LR
GEN





HEAVY DUTY TYPE

HMK 220 LC has been designed by HIDROMEK engineers after careful evaluation of working conditions and operator demands and has been released on the market following as a crawler excavator that meets all expectations of users. All fabricated parts including boom, arm, bucket, undercarriage, lower and upper frames have been designed and produced as heavy duty type. HMK 220 LC offers its operator maximum efficiency by providing trouble-free and continuous operating performance even in the toughest of working conditions. When such rigorous care at the design stage of HMK 220 LC is combined with worldwide approved components and state-of-the-art production technologies, the outcome has been a high performance, durable, comfortable, and well-balanced product with low maintenance and operation costs.

CAB

HMK 220 LC excavator cabin has been designed to allow the operator to work comfortably even under the hardest conditions.

The cab door is large enough to enable the operator to open it easily plenty of clearance. Opening windscreens is designed to give the operator a perfect angle of vision. It is possible to open the windscreens by sliding it towards the roof and windscreens. Rear window may be removed and kept under the operator seat. Other features enhancing operator's comfort are the ergonomic seat and front console. The standard operator seat of the HMK 220 LC can be adjusted in 9 different positions and is designed to enable operator to work without fatigue and comfortably with high performance for long hours.. Besides, the joystick console and seat can move independently enabling operator to adjust the most suitable position for his body structure.

The seat is equipped with seat belt for safety of the operator. The cab is supported by 6 silicon viscose mounts that dampen the effects of noise, shock and vibrations regardless of working conditions of the machine and the optional attachment on it. Also an air conditioner is included in the standard equipment.



EXCAVATOR



“An Extraordinary Engine”

Diesel Engine

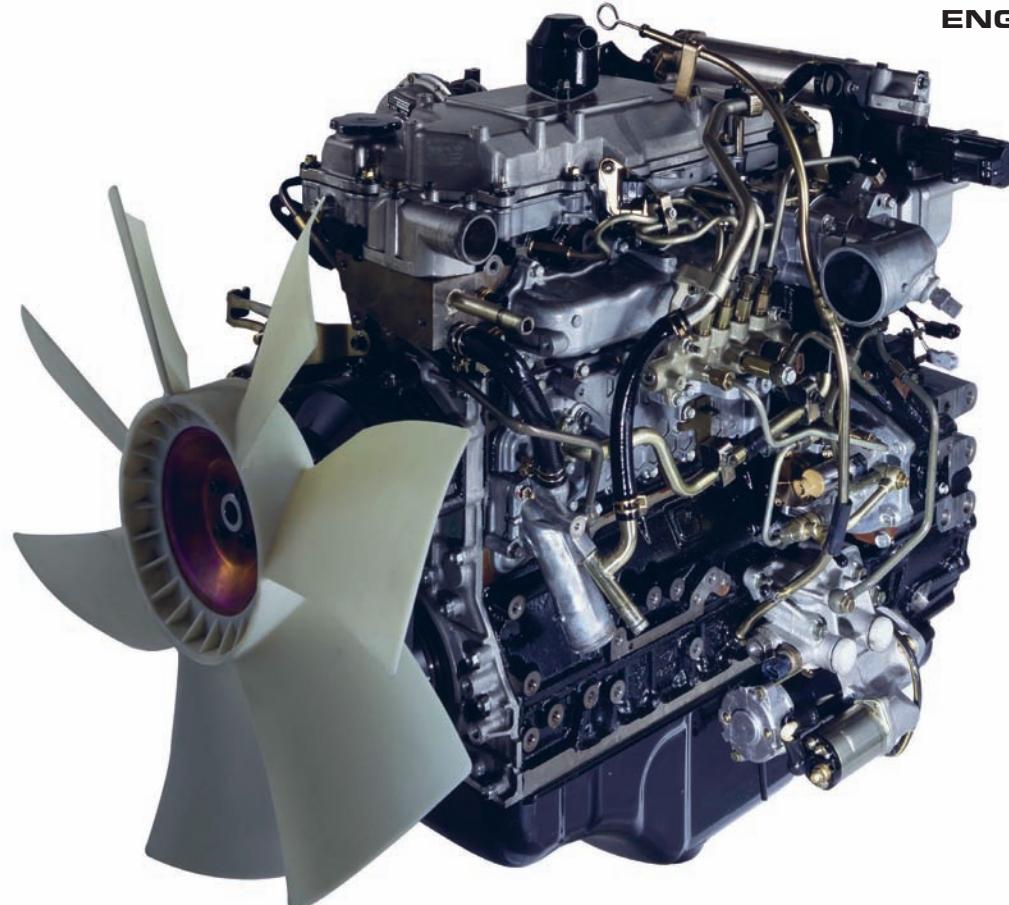
Max Power (SAE J1995) : 162 HP (120.7 kW) 2000 rpm
Max Torque : 656 Nm 1500 rpm

An extraordinary engine...

The Isuzu engine fitted in the HMK 220 LC is specially developed for excavator applications. It is a turbo diesel engine, complies with the Emission Regulations U.S EPA Tier III and EU Stage IIIA, with 4 cylinders, 4 cycles, water-cooling, turbocharger and intercooler. High performance, long life and reliability of the engine under all working conditions have been proved in many different markets.

Low fuel consumption...

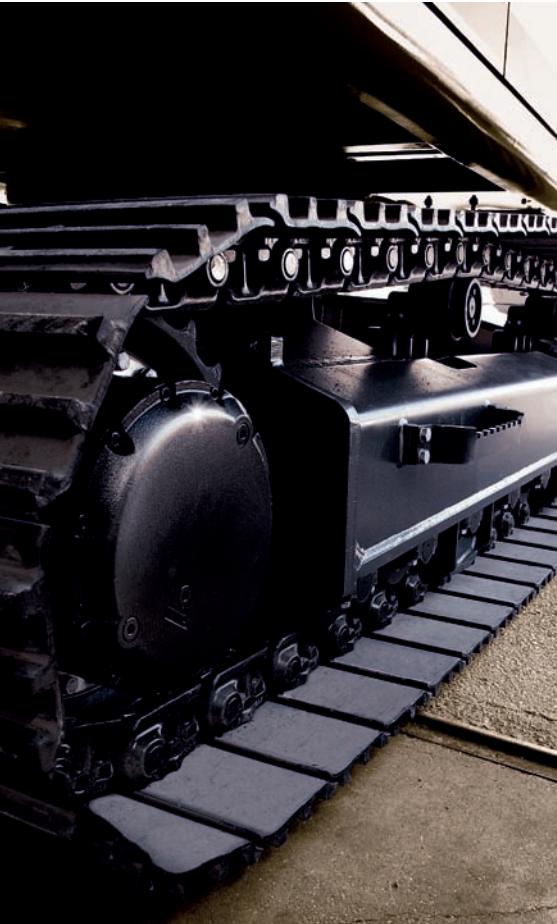
The direct fuel injection and intercooler feature not only provide less fuel consumption but also increase the power and torque produced by the engine by providing more efficient combustion.



More than standard...

Hidromek always offers more than what is expected from any construction equipment. Some of the standard features offered along with HMK 220 LC model are:

- Air pre-heating function to start-up engine easily in cold weather conditions
- Diesel fuel/water separator
- No disturbance for the environment and operator due to low exhaust gas emission and sound level.



X' box type sub-frame

'X' shape box type sub-frame has perfect resistance against bending forces and vibration stress since it homogeneously distributes the stress exposed on it.

Resistance

The lower rollers are connected on the pentagon linkages on the sub-frame which enhance the strength and lifetime of the frame. Latest technology production techniques under firm quality control make "zero" error production possible.

The standard long track maximizes the balance of the machine by providing an enduring platform for the machine to work on. Two roller housings in each track keep track chains in straight direction and therefore prevent wearing of lower rollers.



"Reinforced Heavy Duty Type Construction"

The upper rollers, lower rollers and front idlers are suitable to work on all kinds of terrain and have been sealed with life-time seals. This maintenance-free structure has been a solution for heavy duty work.

Track pins and bushings are greased and sealed, thus reducing chain noise and extending track life.

600,700,800 mm wide track links with triple grouser are able to self-clean through their holes.

Opera Control System

- Perfect control
- Fuel economy
- Long component life
- Low noise level and exhaust gas emission
- Operator comfort
- Warning and protection (security) features
- Malfunction / fault indication feature
- Auxiliary functions

Opera Control System ,consists of 4 power mode and 3 work modes, introduces operator most suitable working conditions in accordance with requirements of work with high performance and economic working options through perfect matching with diesel engine and hydraulic pump.

MODE SELECTIONS

A-Power Mode Selection

POWER MODE	
F (Sensitive Mode)	This mode is used for light works requiring sensitive movements
E (Economy Mode)	This mode is for light work in which low fuel consumption is desired.
P (Power Mode)	This mode is for general digging and loading works.
HP (High Power Mode)	This mode is for heavy and high speed required works. It is suitable for when productivity is considered

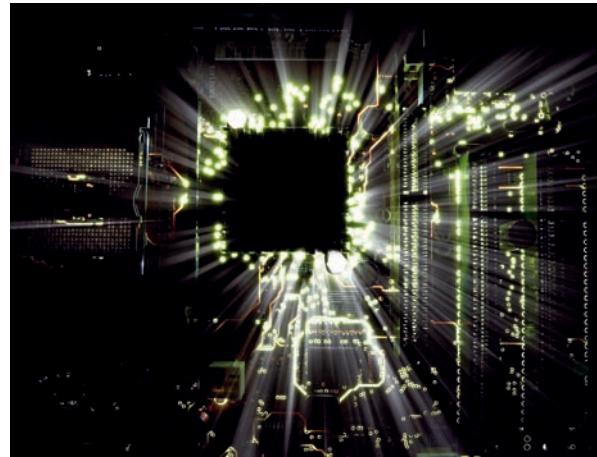
B- Working Mode Selection

WORKING MODE	
D (Digging Mode)	It is designed for normal digging operations.
B (Breaking Mode)	It is designed for breaking operations.
O (Optional attachment Mode)	It is designed to work with optional attachment.

WARNING AND PROTECTION FEATURES

Continuous Monitoring:

Opera Control System, continuously monitors most important parameters of machine and promptly warn operator in case of any abnormality. Such warning can be in three ways:



- Audible warning
- Warning lights
- Indicators

Overheating Prevention Function:

If engine water temperature and hydraulic oil temperature exceeds certain temprature , electronic control system provides continuous work by decreasing pump flow rate and engine rpm .

Automatic preheating :

Automatic preheating provides reaching machine to optimum working temperatures by measuring air intake temparature , cooling water temperature and hydraulic oil temperature of diesel engine. Machine control unit removes engine rpm from idling to 1200 rpm when engine cooling water is lower than 30°C or hydraulic oil temperature is lower than 0°C and stay on this rpm until warm up . By this way early wearing of main components beginning engine in the first place is prevented. However if there is emergency and machine is required to be moved quickly , such function can be cancelled by pressing button on display panel.

Automatic Malfunction Indication:

When machine displays any malfunction, code representing such malfunction appears on display panel for warning purpose.

Malfunction Messages Memory:

Opera Control System has feature of keeping occured malfunctions in the machine in its memory.

Fuel filter Congestion Warning:

Notifies pollution of fuel filter to operator by view.

TECHNICAL SPECIFICATIONS

Manuel Mode Selection:

In case of any malfunction in control system of the machine, it is possible to switch to manual mode and continue operation by means of a button located near fuse box. Hydraulic pump flow rate is fixed and also engine rpm can be set between 900 rpm and maximum rpm manually.

Component Information and Main Setting Values:

Information regarding serial numbers of the components of the machine can be loaded on the control unit and may be recalled when required. It is also possible to read the required malfunction information on the display panel through the control unit during fault searching.

Program Loading and Modification:

There are computer connection ports on control unit of the machine. By means of such ports, programs of which parameters are either the same or different can be loaded on the machine.

AUXILIARY FEATURES

Automatic Powerboost:

When more power than normal working conditions is needed, electronic control system allows working at high performans through increasing system pressure.

Automatic Powershift:

If more power is needed during digging and travel , required power is obtained by mounting engine rpm and pump flow rate above setup value

Automatic Idling:

While levers are in the middle position, in case of no movements at levers, electronic control system decreases engine rpm to 1200 rpm and then decrease to idling in order to prevent redundant fuel consumption . Automatic Idling function can be activated also at any time determined by operator. When operator touches to lever , engine rpm and pump flow rate of previously selected mode is restored . This function can be canceled by operator if he desires. By this way desired power from engine can be obtained.

Condition Information:

Instant, hourly and total fuel consumption information of machine can be monitored. Also , many parameters such as; battery voltage , engine load, pump pressures , cooling water temperature, and hydraulic oil temprature can be monitored

Maintenance Information:

There is warning system that informs operator about periodic maintenance time automatically. Also parameters related with machine maintenance can be monitored on control panel.

Operation Hours:

Detail working hours of machine , such as working hours, travel hours, attachment hours , breaking hours, are kept on the memory.

Anti-Theft System:

Anti-theft system is set up by defining private code for each operator.

Fuel Consumption:

Fuel consumption can be followed on remote control panel in real time and statistical information can be obtained.

Language Selection:

Selection of multi-language on the remote control panel.



Since the very first phase of its design, the new generation GEN has been developed so that the user could control the machine with an extraordinary ease, in an environment of total comfort, feeling himself like in his own office.

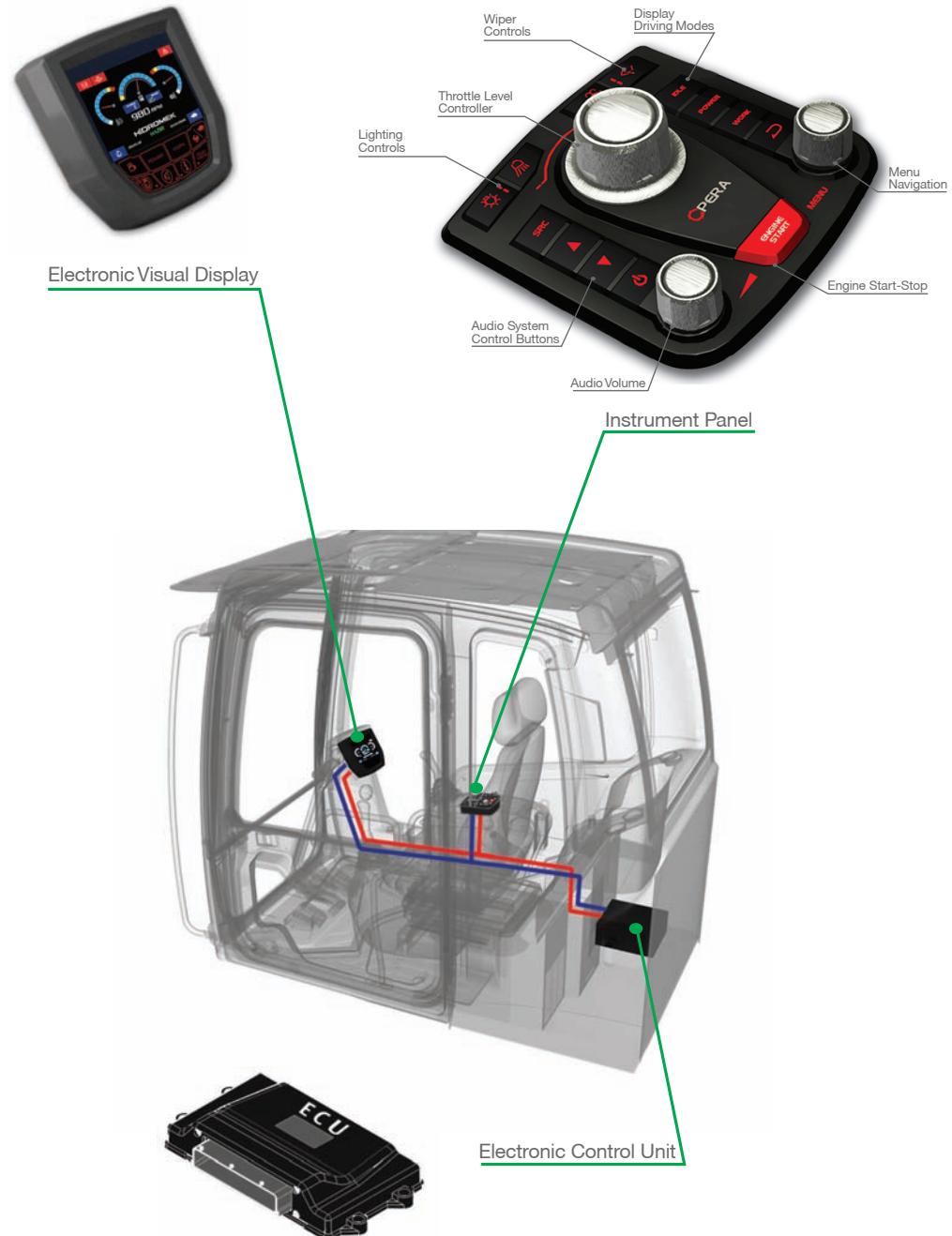
That is why, GEN - the new generation of excavators Hidromek, for first time in its class, has been equipped with OPERA (Hidromek Operator Interface).

OPERA, the user interface especially developed for the GEN series Hidromek excavators integrates all the control devices on a aesthetically designed console ergonomically located for easy access and deal, a TFT color screen with high resolution, and the Electronic Control Unit.

With OPERA it is extraordinary easy to understand and manage functions such as:

- Engine RPM control
- Navigating and scrolling the menus
- Choose the most appropriate mode of working
- Control the lights and wipers
- Manage radio/MP3
- Stop-Start the engine to ensure maximum fuel economy during the waiting times.
- Control of the cameras – rear view and on the arm (optional)
- Observe the conditions information, such as fuel consumption - average or instant, hydraulic pressure, engine coolant and hydraulic oil temperature, turbo boost pressure, fuel pressure, atmosphere pressure and others.
- Error Codes
- Times of work - as a time of excavating, work with attachments (breakers etc), travel, etc.
- Time to the next maintenance

among others.





Features:

- Easy to control
- High efficiency
- Generation of required flow rate when needed (negative control)
- Continuous control of power generation depending on increasing load
- Maximum performance under all sorts of working conditions due to functional power modes
- Priority allowance in attachment movements
- Regeneration of flow rate in main control valve

Main Hydraulic Pump

Machine performance and pump life have been maximized by using two axial pistons and variable displacement hydraulic pumps from Kawasaki, a worldwide leading hydraulic pump manufacturer. It is possible to generate the necessary flow rate when required thanks to the negative control feature. Stalling of the engine is prevented by matching the power generated by diesel engine with the power required by the pump under increasing load . The best matching of the engine and pump flow rate is achieved with the power mode modulation depending on working conditions. By this way;

- High efficiency
- High quality
- Long and trouble-free operating life is achieved.

Main Control Valve

The main control valve ensures sensitive and vibration free operation in each combined movement. The operator is able to focus only on his work since the priority at the arm, boom and swing movements are provided automatically by the control valve, thus maximizing efficiency. The re-generative system prevents cavitations during boom, arm and bucket movements and increases both the life of the hydraulic system and speed of the machine.

Boom and arm load holding valves are supplied as standard in order to balance the interior leakage between spool and body so the potential leakage problem at the attachments is avoided.

Two-stage main relief valve provides possibility to increase power when required.

Straight travel valve exists within the main control valve. Due to the featured structure of the main valve block, it is possible to join the oil produced by both pumps within the valve group.

There is no need for an external pipe or hose for such operation.

An additional valve section is available for breaker or other optional attachments.

Swing Hydromotor and Gearbox

An axial piston type hydromotor with high torque is used together with a heavy duty type gearbox. The hydromotor features shock absorbing valves specially designed to provide smooth and vibration free swing movement. The braking of the swing movement is provided by an oil type spring-driven park brake system.

Other features

The hydraulic accumulator which enables lowering of the attachments in case of emergency (i.e. diesel engine or main hydraulic pump failure) is fitted in the pilot line.

The advanced hydraulic system provides easy servicing and decreased spare part costs.

Hydraulic cylinders are designed with a cushioning system to provide a vibration and shock free operation.

The entire hydraulic system is fitted with high capacity filters so ensure absolute cleanliness.

Different types of breakers may be fitted by selecting desired flow rate and pressure on the control unit.

TECHNICAL SPECIFICATIONS

ENGINE

Brand, Model	: ISUZU AI-4HK1X
Type	: Water cooled diesel engine, 4 cycles, 4 cylinders, line-type, direct injection, turbocharger and intercooler
Emission Class	: Stage III-A (Tier 3)
Power	: 162 HP (120.7 kW) at 2000 rpm SAE J1995
Maximum Torque	: 656 Nm at 1500 rpm
Displacement	: 5,193 cc
Bore x Stroke	: 115 mm x 125 mm
This new engine complies with the Emission Regulations U.S EPA Tier III and EU Stage III-A	

HYDRAULIC SYSTEM

Main Pump

Type	: 2 axial piston type pumps with double variable displacement and inclined plate
Max. Flow Rate	: 2 x 234 L/m
Pilot Pump	: Gear type, 19 L/m (10 cc/rev)

Working Pressures	220 LC	220 LC LR*
Cylinders	: 330 kgf/cm ²	*150-240-330 kgf/cm ²
Power Boost	: 360 kgf/cm ²	-
Travel	: 360 kgf/cm ²	360 kgf/cm ²
Swing	: 240 kgf/cm ²	240 kgf/cm ²
Pilot	: 40 kgf/cm ²	40 kgf/cm ²
Hydraulic pressures are boom lifting down 150kgf/cm ² arm closure 240kgf/cm ² , bucket opening and closure 240 kgf/cm ²		

Cylinders

Boom	: 2 x 125 x 85 x 1,325 mm
Arm	: 1 x 140 x 100 x 1,640 mm
Bucket	: 1 x 125 x 85 x 1,060 mm
Bucket (220LC LR)	: 1 x 110 x 70 x 910 mm

LUBRICATION

A central lubrication system is available in order to lubricate difficult-to-reach points such as boom and arm.

WARNING

Hidromek has the right to modify the specifications and design of the model indicated on this brochure without prior notice.

SWING SYSTEM

Motor	: Axial piston motor with integrated super shock absorbing valve, with fixed displacement and inclined plate
Reduction	: 2 stage planetary gear type v
Swing Brake	: Hydraulic, disc type with warning
Swing Speed	: 11 rpm

SUB-FRAME

Construction	: Lower structure "X" type, side frame pentagon box type
Shoe	: Triple grouser
No. of Shoes	: 2 x 49 units
No. of Lower Rollers	: 2 x 9 units
No. of Upper Rollers	: 2 x 2 units
Track Tensioning	: Hydraulic type with spring cushioning

CAB

- Improved operator's all round visibility
- Increased cabin internal space
- Use of six viscomount cabin mountings that dampen the vibrations
- High capacity A/C
- Cooled storage box
- Glass holder, book and object storage pockets
- Pool type floor mat
- Improved operator's comfort through versatile adjustable seat
- Ergonomically redesigned cabin through relocated switch board, and re-styled travel pedals and levers

ELECTRICAL SYSTEM

Voltage	: 24 V
Battery	: 2 x 12 V x 100 Ah
Alternator	: 24 V / 50 A
Starting Motor	: 24 V / 5.0 kW

EXCAVATOR

TRAVEL AND BRAKES

Travel	: Fully hydrostatic
Travel Motor	: Axial piston motor with 2 speed stages and inclined plate
Reduction	: Planetary gear system with 3 stages
Travel Speed	
High Speed	: 6 km/h
Low Speed	: 3.8 km/h
Max Traction	: 18.500 kgf
Gradeability	: 35° (70%)
Parking Brake	: Hydraulic, disc type with automatic warning
Ground pressure (220LC)	: 0.48 kgf/cm ²
Ground pressure (220LCLR)	: 0.51 kgf/cm ²

FILLING CAPACITIES

Fuel Tank	: 354 L	Engine Oil	: 20.5 L
Hydraulic Tank	: 160 L	Swing Reduction Gear:	: 5 L
Hydraulic System	: 290 L	Travel Reducer	: 2x5,4 L
Engine Cooling Sys : 29.3 L			

Opera Control System

- | | |
|---|---|
| • Easy-to-use control panel and menus | • Automatic preheating |
| • Improved fuel economy and productivity | • Auto-Idle and automatic deceleration system |
| • Maximum efficiency by selection of power and work modes | • Automatic powershift to improve performance |
| • Overheat prevention and protection system without interrupting the work | • Selection of multi-language on control panel. |
| • Automatical powerboost switch-on and switch-off | • Real time monitoring of operational parameters such as pressure, temperature, engine load |
| • Automatical electric power-off | • Anti-theft system with personal code |
| • Maintenance information and warning system | • Possibility to register 26 different operating hours |
| • Error mode registry and warning system | • Rear-view, arm-view camera (Optional) |
| • Hidromek Smartlink (Optional) | |

WEIGHT

Standard machine operating weight (220 LC) : 22,600 kg
Standard machine operating weight (220 LC LR) : 24,250 kg

STANDARD BUCKET

OPTIONAL BUCKET SELECTION DIAGRAM

HEAVY DUTY TYPE

Width	1.190 mm
Capacity	1.00 m ³
Weight	800 mm
Number of teeth	5
ARM	*2.92 m 2.40 m

*Standard

600 mm	750 mm
0.40 m ³	0.54 m ³
510 kg	570 kg
3	3
A	A
A	A
900 mm	1,050 mm
0.68 m ³	0.82 m ³
640 kg	690 kg
4	4
A	A
1,400 mm	1,200 m ³
11,200 (12,300) kgf	12,800 (14,000) kgf
870 kg	15,800 (17,200) kgf
6	11,600 (12,600) kgf
C	13,200 (14,400) kgf
B	

Note: Single radius buckets and rock type buckets are available

BREAKOUT FORCES

SAE	Arm length *2.92 m
SAE	Bucket digging force (power boost) 13,900 (15,200) kgf
SAE	Arm breakout force (power boost) 11,200 (12,300) kgf
ISO	Bucket digging force (power boost) 15,800 (17,200) kgf
ISO	Arm breakout force (power boost) 11,600 (12,600) kgf
ISO	13,200 (14,400) kgf

*Standard

STANDARD BUCKET

DITCH CLEANING BUCKETS

HEAVY DUTY TYPE

*Tilting Bucket		
Width	600 mm	1,500 mm
Capacity	0.45 m ³	0.45 m ³
Weight	510 kg	530 kg
Number of teeth	3	-
ARM	6.1 m	A
		A

* Tilt angle 2 x 35°

BREAKOUT FORCES

SAE	Arm length 6.1 m
SAE	Bucket digging force 6,500 kgf
SAE	Arm breakout force 4,600 kgf
ISO	Bucket digging force 7,300 kgf
ISO	Arm breakout force 4,700 kgf

A- Material density less than 2.000 kg/m³

B- Material density less than 1.800 kg/m³

C- Material density less than 1.500 kg/m³

D- Material density less than 1.200 kg/m³

WARNING

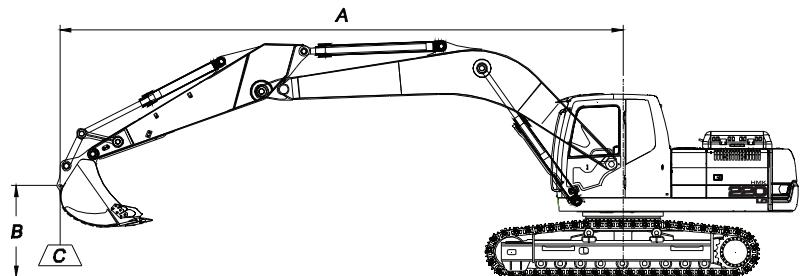
• Optional attachment and accessory standards offered with machines may differ according to countries.

• Please consult your authorized dealer to provide attachments and accessories.

LIFTING CAPACITIES

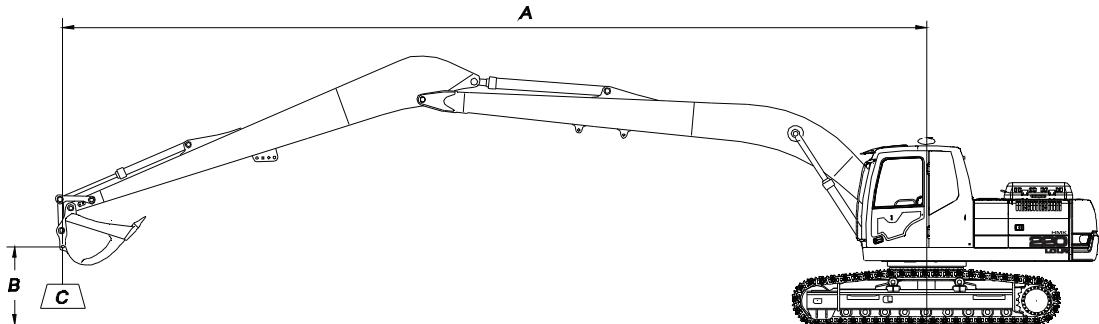
EXCAVATOR

HMK 220LC Boom: 5.8m, Arm: 2.92m, Bucket: 1.00m³ (SAE), Shoe: 600mm											↑ : Front	↗ : Side				
A, m	Load Unit	1.5		3.0		4.5		6.0		7.5		Maximum Reach				
B, m	Load Unit	↑	↗	↑	↗	↑	↗	↑	↗	↑	↗	↑	↗	A, m		
7.5	kg											*3200	*3200	6.74		
6.0	kg											*3800	3500	*3050	*3050	7.78
4.5	kg							*4600	*4600	*4250	3400	*3050	2700		8.43	
3.0	kg			*11350	*11350	*7050	*7050	*5450	4700	*4650	3250	*3250	2400		8.77	
1.5	kg			*5650	*5650	*8800	6800	*6350	4400	5000	3050	*3550	2300		8.84	
0 (Ground)	kg			*6850	*6850	*9850	6350	6900	4150	4850	2900	3850	2300		8.65	
-1.5	kg	*6350	*6350	*10100	*10100	*10100	6200	6750	4000	4750	2850	4150	2500		8.18	
-3.0	kg	*10000	*10000	*14050	12600	*9550	6250	6750	4000			4900	2950		7.38	
-4.5	kg			*11600	*11600	*8100	6450	5750	4150			*5600	4050		6.10	



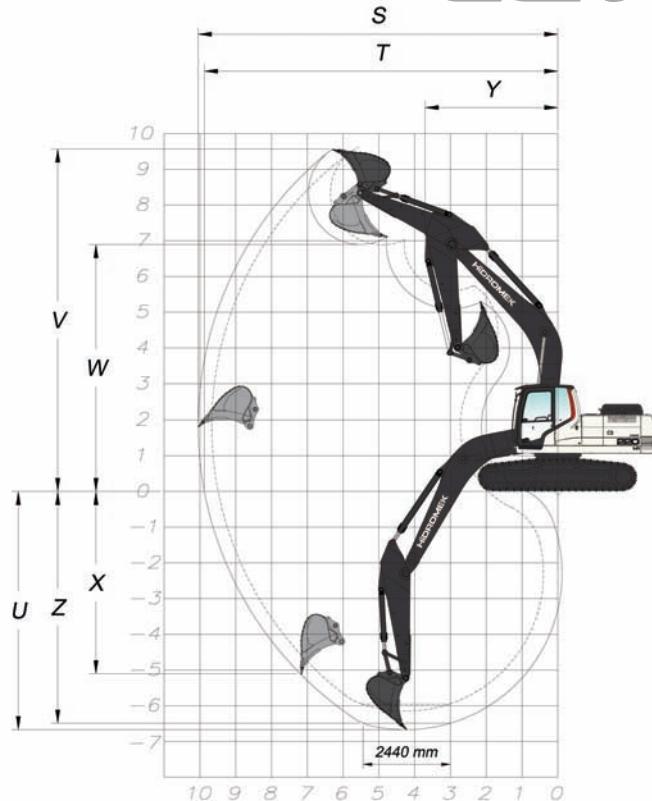
A Load Radius
 B Load Point Height
 C Lifting Capacity

HMK 220LC LR Boom: 8.5m, Arm: 6.1m, Shoe: 700mm											↑ : Front	↗ : Side	
X, m	Load Unit	3.0		6.0		9.0		12		Maximum Reach			
H, m	Load Unit	↑	↗	↑	↗	↑	↗	↑	↗	↑	↗	R, m	
9.0	kg											*850	
6.0	kg											*1900	
3.0	kg	*8250	*8250	*3800	*3800	*2650	*2650	*2150	1700	*750	*750	14.09	
0 (Ground)	kg	*2300	*2300	*5450	4550	*3350	2500	*2500	1500	*950	950	14.02	
-3.0	kg	*3350	*3350	*6250	4000	3800	2200	2450	1350	*1250	1150	13.28	
-6.0	kg	*5000	*5000	*6100	3950	3700	2150			*2000	1450	11.73	
-9.0	kg	*7100	*7100	*4900	4250						*2950	2350	8.98



Notes

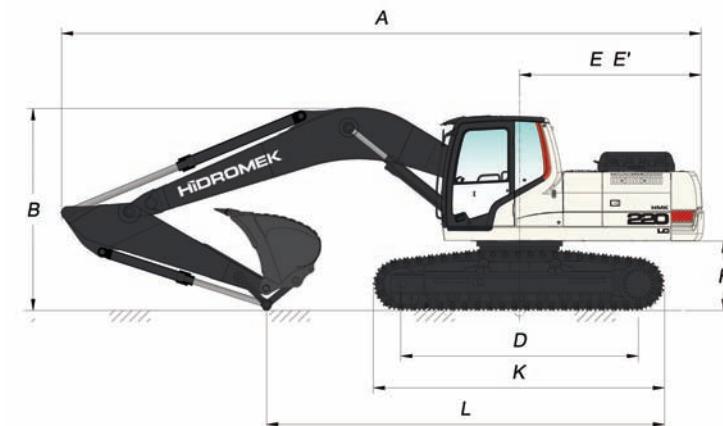
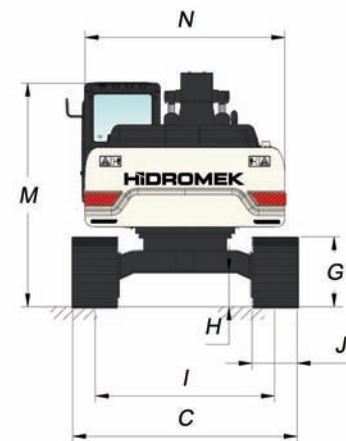
1. Lifting capacities are according to SAE J1097 and ISO 10567
2. Load point is on the bucket..
3. Lifting capacity cannot exceed 75% of tip over capacity or 87% of total hydraulic capacity.
4. Values marked with (*) are limited by hydraulic capacity.
5. Not includid bucket weight.



GENERAL DIMENSIONS

Boom Dimension	5.800 mm	
Arm Dimension	2.400 mm	*2.920 mm
A - Overall Length	9.800 mm	9.790 mm
B - Boom (Shipping) Height	3.150 mm	3.090 mm
C - Lower Frame Width (LC)	*2990 / 3090 / 3190mm	
C - Lower Frame Width (NLC)	2.540 mm	
D - Track Base Length	3.640 mm	
E - Counterweight Distance	2.780 mm	
E' - Countweight Turning Radius	2.800 mm	
F - Upper Chasis to Ground Clearance	1.060 mm	
G - Crawler Height	935 mm	
H - Ground Clearance	465 mm	
I - Track Gauge (NLC/LC)	2.040 / 2.390 mm	
J - Shoe Width (LC)	*600 / 700 / 800 mm	
J - Shoe Width (NLC)	500 mm	
K - Lower Chasis Length (from shoe)	4.460 mm	
L - Shipping Length	5.420 mm	
M - Cab Height	2.985 mm	
N - Upper Frame Width (NLC/LC)	2.500 / 2.660 mm	

* Standard



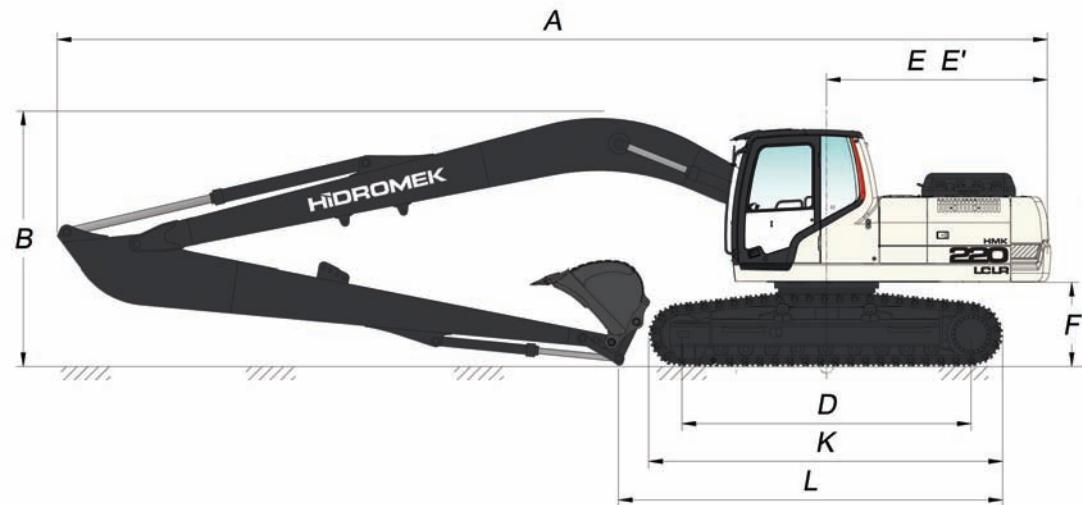
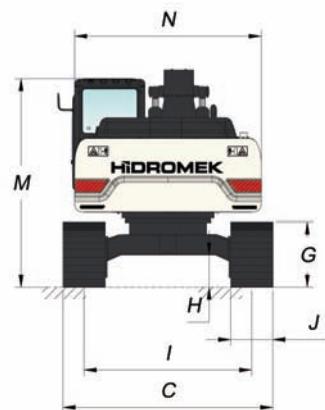
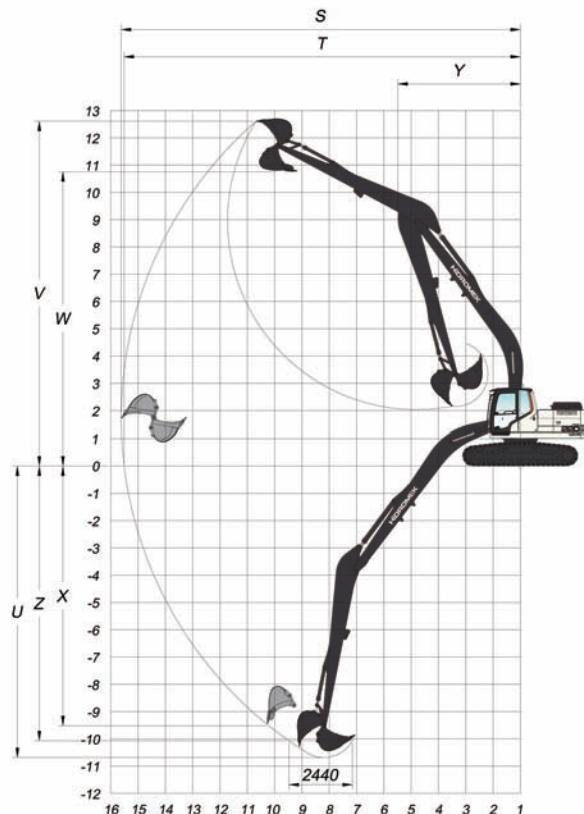
WORKING DIMENSIONS

Boom Dimension	5.800 mm	
Arm Dimension	2.400 mm	*2.920 mm
S - Maximum Reach Distance	9.670 mm	10.050 mm
T - Maximum Reach at Ground Level	9.490 mm	9.880 mm
U - Maximum Digging Depth	6.150 mm	6.670 mm
V - Maximum Digging Height	9.620 mm	9.560 mm
W - Maximum Unloading Height	6.890 mm	6.890 mm
X - Maximum Vertical Wall Digging Depth	5.200 mm	5.270 mm
Y - Minimum Swing Radius	3.810 mm	3.720 mm
Z - Maximum Digging Depth (2440 mm level)	5.950 mm	6.490 mm

* Standard

220 LC LR DIMENSIONS

EXCAVATOR



GENERAL DIMENSIONS

Boom Dimension	8.500 mm
Arm Dimension	6.100 mm
A - Overall Length	12.470 mm
B - Boom (Shipping) Height	3.200 mm
C - Lower Frame Width (Track Width)	2990 / *3090 / 3190mm
D - Track Base Length	6.640 mm
E - Counterweight Distance	2.780 mm
E' - Countweight Turning Radius	2.800 mm
F - Upper Chasis to Ground Clearance	1.060 mm
G - Crawler Height	935 mm
H - Ground Clearance	465 mm
I - Track Gauge	2.390 mm
J - Shoe Width	600 / *700 / 800mm
K - Lower Chasis Length (from shoe)	4.460 mm
M - Cab Height	2.985 mm
N - Upper Frame Width	2.660 mm

* Standard

WORKING DIMENSIONS

Boom Dimension	8.500 mm
Arm Dimension	6.100 mm
S - Maximum Reach Distance	15.170 mm
T - Maximum Reach at Ground Level	15.060 mm
U - Maximum Digging Depth	11.240 mm
V - Maximum Digging Height	13.170 mm
W - Maximum Unloading Height	10.850 mm
X - Maximum Vertical Wall Digging Depth	9.270 mm
Y - Minimum Swing Radius	3.520 mm
Z - Maximum Digging Depth (2440 mm level)	11.130 mm

* Standard





Special Equipment List

- 2.4m arm
- Various size buckets
- Automatic lubrication system
- Hydraulic breaker line
- Rotator line
- Boom safety valve
- Arm safety valve
- Overload warning system
- Beacon lamp
- 700, 800 mm track
- Hydraulic breaker
- Hydraulic Quick Coupler
- Ripper
- Additional working lamp at the front
- Additional working lamp at the rear
- Windscreen protective netting
- Headlights
- Hidromek Smart Link
- Camera
- Rotational moving hydraulic shear installation

Standard Equipment List

- Radio/MP3
- Air conditioner
- Cab heating system
- Cab conforming to FOPS tests
- Computer connection port
- Oil and dust seal ring in chain pins
- Long life lubricating in rollers and direction wheel
- Fuel transfer pump
- Front air filter
- Double air filter
- Automatic idling
- Engine pre-heating facility
- Overheating, low engine pressure, air filter clogging indicators
- Battery charge warning system



HİDROMEK

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FACTORY - HEADQUARTERS

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Warning

HİDROMEK has the right to modify the specifications and design of the model indicated on this brochure without prior notice