

Mahindra
Construction Equipment

powered-by
DITEC

Mahindra
Rise.



ABOUT CONSTRUCTION EQUIPMENT INDUSTRY

Global Construction Equipment Market is expected to garner \$288.8 billion by 2022, registering a CAGR of 9.2% during the forecast period 2016-2022. Construction equipment, also known as heavy equipment are specially designed machinery for performing construction operations. These equipment are used for different functions such as drilling, hauling, excavating, paving and grading. The world construction equipment market covers different industries including manufacturing, oil & gas, forestry, military and public works.



The world construction equipment market has earlier faced slowdown due to sluggish economic conditions and slow growth of the construction industry, however the market is expected to grow at a steady growth rate in the coming years. Increasing industrial, residential, and commercial construction activities, global economic growth, and rising public-private partnerships is expected to drive the market especially in the developing countries. However, government regulations concerning carbon emission and fluctuations in oil prices, restrain the market growth. Rising government investments for infrastructure development is expected to offer lucrative opportunities for growth.

Public works projects including the construction of dams, bridges, government buildings, hospitals and schools will be at the forefront of the developing economies. India being the leader of developing economies, is on the fast lane to becoming a global hub for development and is forecasted to be US\$ 5 trillion economy by 2020 according to D&B's estimates. With the various government initiatives by Indian Government as smart cities, swatch bharat mission, coal block auction, road and waterways development with project like bharat mala & sagar mala, transmission development project etc, infrastructure investment is expected to surge to 12.1% of GDP by F20 with spending of US\$ 465 billion. The surge in these infrastructure projects are directly set to create a huge demand of construction equipment in India which is currently the 5th largest and fastest growing market in the world.

The market for excavators, backhoe loaders and dumper trucks, needed for construction and transport is expected to be \$ 2.8 billion this year and the industry is expected to nearly double to around \$ 5 billion by 2019-20, according to the Indian construction equipment manufacturers association (ICEMA). Increasing substantial investments to improve infrastructure has been and will remain the major driver for the growth of the sector. These are indeed exciting times to be associated with construction equipment industry both globally as well as in India.



ABOUT MAHINDRA AND MAHINDRA

Seven decades in the making, Mahindra & Mahindra Ltd.'s story is representative of the rise of modern India. A story about the rise of an Indian company to a global powerhouse. It has come a long way since its humble beginnings and as we accelerate into the 21st century, our journey as a global brand is well underway. Mahindra now has a strong presence in 20 key industries including Mobility, Rural Finance, IT, Real Estate, Holidays and Construction Equipment to name a few and they are empowering enterprise everywhere.

From the humble beginning as an automotive and tractor manufacturer, it has made rapid strides in product development. With ambition to be a technology and innovation-led brand, Mahindra began serious investments in building capabilities and infrastructure and also entered various new business segments. With aspiration of building Mahindra as global brand, it is working on next-gen technologies and innovations across sectors to build new products and services across various businesses.

As a global entity, it sees an incredible opportunity to drive positive change for all its stakeholders through mutual growth by alternative thinking and accepting no limits.



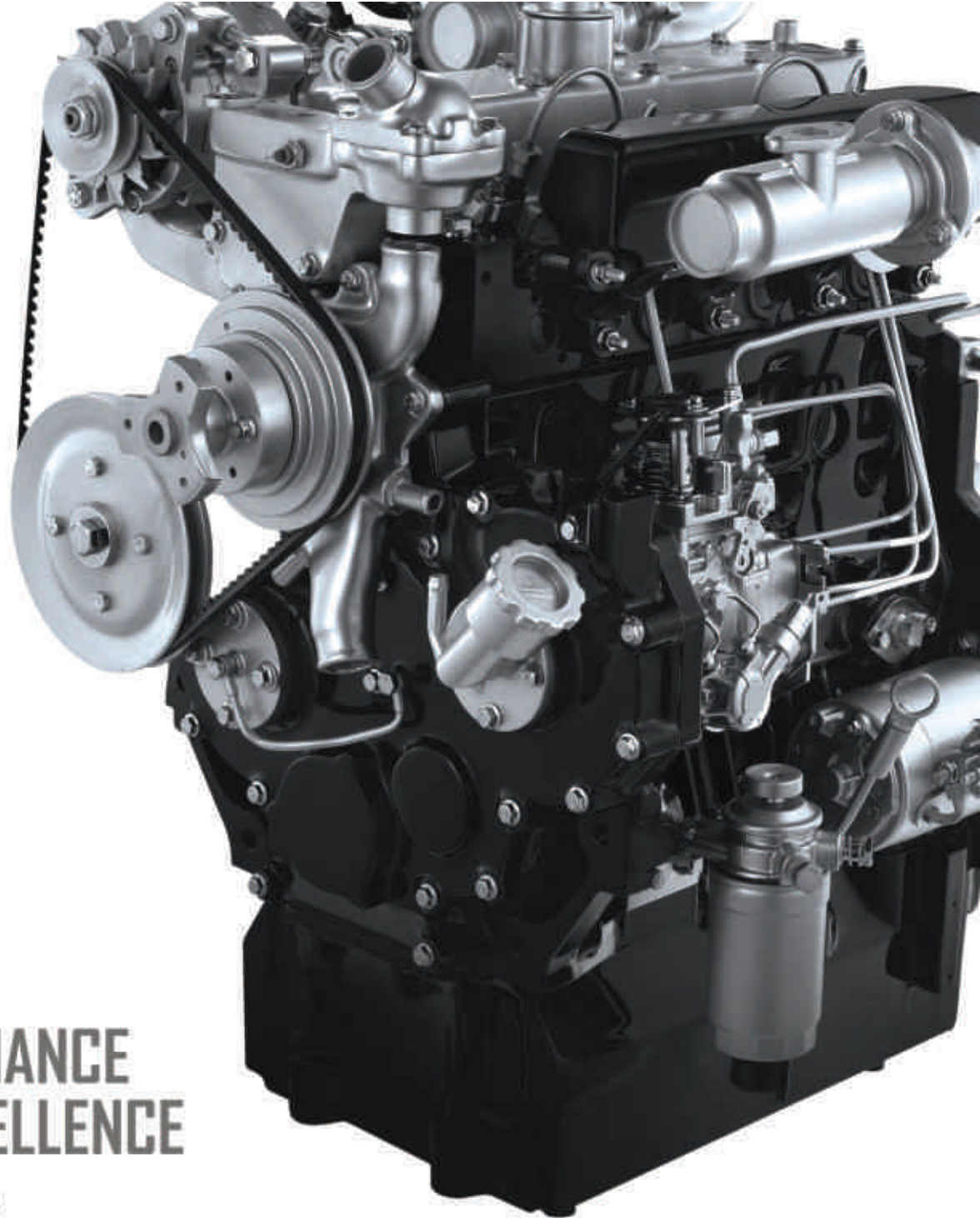
ABOUT MAHINDRA CONSTRUCTION EQUIPMENT



Mahindra Construction Equipment, part of US \$ 19 billion Mahindra Group, has set foot in the construction equipment industry with aim to provide disruptive product and services which would not only be category creating but enable its customers to break free from traditional equipment. As one of the prominent player in Indian construction equipment segment, Mahindra Construction Equipment has always strived to give the best to its customers.

With aim to capitalize on the growth story of construction equipment sector in India and across the globe, it has launched a slew of innovative products not only in earthmoving category but in road construction equipment category as well. All Mahindra CE products are an outcome of deep consumer insights which address the exact needs of the developing world and are loaded with technology never seen before in its respective product segment. Mahindra CE products have always created a benchmark and ushered in a new era of performance, comfort and ease of operation which is in line with the vision to offer enhanced value proposition and live by the philosophy of ensuring customer delight.

The Mahindra Construction Equipment are manufactured at Mahindra's state-of-the-art facility at Chakan, Pune, India. Spread over 30 acres, it is built up on an area of 10,000 sq m and is scalable for future product additions. This plant uses revolutionary technology in the manufacturing process. Every equipment rolled out is world-class and evaluated to check for appearance, welding & painting and proper functioning. It is also checked thoroughly for mechanical noises, engine noises, leakages etc. ensuring that every Mahindra Construction Equipment is absolutely perfect.



PERFORMANCE PAR EXCELLENCE

Mahindra Engines

Mahindra engines are built to withstand long working hours, in the most demanding conditions from deserts to high altitude locations of sub-zero temperature zones. This makes them ideal for the construction and mining industry.

The 79 HP and 90 HP power delivered by the engine makes the Mahindra Equipment an execution work horse which is more than adequate for various applications including loading and dozing among others.

The DITEC engine delivers a phenomenal 79 HP whilst 4915-IA-CEV engine delivers 90 HP power from a compact 3532cc, using the advanced engine technology available with Mahindra. The construction of the DITEC & IA-CEV engine is by combining the Direct injection (DI) with Turbo charger & Inter cooler (TCI). Thus, with minimum fuel consumption one can still get high power, all at a low RPM.

Excellence in technology is provided by the BS III (Euro III) compliant DITEC & IA-CEV engines which are packed with the latest technology for minimising emissions. They also meet the USA Tier III emission norms, the most stringent in the world.

With the next generation DITEC & IA-CEV fuel efficient engines designed and manufactured by Mahindra, customers start to save, as it allows them to lower their operating costs. Thus, making them more successful in a very competitive contracting and hiring business.

1
YEAR
WARRANTY.
UNLIMITED HOURS.

DESIGNED TO DELIVER

One year warranty, unlimited hours.

The unprecedented warranty in Mahindra Construction Equipment is possible due to Mahindra's engineering and manufacturing capability backed up by a grueling testing regime and sourcing of the best components.

Mahindra Construction Equipment have been designed by Mahindra & Mahindra's strong R&D department, with its decades of experience in engineering products that last long and provide great value. Mahindra & Mahindra's engineers have studied all the applications of construction machinery in India and other developing countries and designed Mahindra products to meet the toughest duty needs of the Indian contractors.

The steel used for the various structural components is of a special grade leading to high strength and long life. The cabin is treated with a special CED rust prevention coating that is used in passenger cars, providing years of rust free life. All the major components are painted with a high performance polyurethane coating that provides rust resistance and gives a glossy shine.

Mahindra's equipment can run continuously without overheating at 50°C daytime temperatures in the deserts of Rajasthan and each have been tested extensively for over thousands of hours in various topography with a testing cycle that crosses 21 hours a day for various applications.

The key structural parts are made in the state-of-the-art Mahindra & Mahindra factory using welding robots from Austria. The welding quality, therefore, is nothing but the best. Mahindra Construction Equipment have the world's best components put together to give you one solid reliable machine.





ENHANCED OPERATOR PERFORMANCE

Futuristic styling, Superior comfort and convenience.

Get noticed with Mahindra's stylish 21st century looks that gives customer and his business a great reputation. It also gives your operator a great machine to work with. The cabin is styled with a futuristic theme and is ROPS & FOPS compliant as per international norms making them one of the safest. The car like interiors of the cabin are created using well designed consoles with the latest front and side instrument clusters. Special care has been taken to design the equipment for all round visibility in day and night time. The sloping hood enable easy visibility during loading operations.

Mahindra construction equipment doesn't just look good, it feels great too. Operator foot and hand controls are designed to be within easy reach of the tallest and the shortest operators. A factory fitted fan keeps the cabin ventilated.

A personal storage area is provided for the operator's convenience. Also included is a stylish tool box, conveniently located at the rear of the cabin to keep the work area neat and clutter free.

With the FM Radio, operators can listen to their favourite music even as they make the Mahindra construction equipment work for you.



DURABILITY AND EFFICIENCY

Super Performance and Precision

Operations like fine grading and cutting which require an extremely skilled operator in other equipment. However, it can be easily handled using the Mahindra products.

In the EarthMaster Range of backhoe loaders, the banana boom provides 7% more reach* and the larger excavator bucket than the competition provides for more capacity#.

100% focused on build quality, reliability & durability to maximize service life and machine uptime.

- Paint process guarantees quality and lasting protection.
- Highly reliable hydraulic pumps ensure low value maintenance.
- Dust and water proof switches and connectors for high reliability.
- Slew of attachments to cater multiple applications.





DiGi SENSE
by Mahindra

TECHNOLOGY AND INNOVATION

Ultimate ease of security with information at a go

Don't know what is happening with the machine when away? No more have any lack of control over the business, and manage it from comforts of office, home or car.

DiGiSense gives the freedom to manage equipment from anywhere. It is an intelligent communication system that continuously informs about the machine through telematics solution.

Be it business information like daily work report or warnings like fuel level and air filter clog - get constant updates of the Mahindra construction equipment. Also, the fleet tracking facility is available through geofencing.

Know what's happening with Mahindra construction equipment 24 X 7

These are the host of features that you would be able to monitor:

- Open Interface to IT Systems
- Service Due & Notification
- Machine History Record
- Battery Condition Monitoring
- Real Time Problem Alerting
- Problem Alerts by SMS
- Type of Problem Alert
- Event History
- Fuel level
- Idle Time Reporting
- Tow away alert
- Water in fuel
- Low Engine oil pressure
- Coolant temperature
- Air filter Clog

- Check availability for international market with the dealer.

RELIABILITY AND SERVICEABILITY

Mahindra's sales and customer care anywhere.

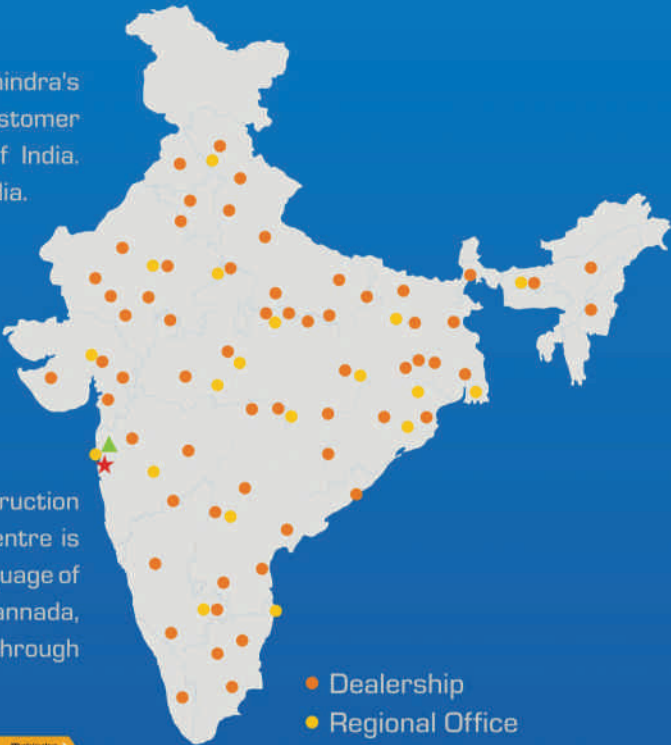
Concerned about customer care and product support? Mahindra's legendary sales and service network stands solidly behind its customer from Punjab to the Nagaland to the southern most parts of India. Mahindra authorised dealership point can be found anywhere in India.

Sales and Service Network in India

- Over 60 dealers and over 225 Dealer sales executives
- Over 275 service technicians to reach you at your site
- Mahindra & Mahindra's 20 area offices
- 10 regional warehouses for robust supply chain management
- Presence in over 400 districts

Dedicated call centre for service support

Besides our dealers and area offices, all Mahindra Construction Equipment are supported by a dedicated call centre. The call centre is equipped to answer all your queries and to send you help in the language of your choice, be it Hindi, Gujarati, Marathi, Tamil, Telugu, Kannada, Malayalam, Bengali or English. Now enjoy professional support through our award winning WITH YOU HAMESHA services.



- Dealership
- Regional Office
- ▲ Manufacturing Facility
- ★ Head Office



Sales and Service Network in International Markets

- Exports presence in South Asian Countries, East Africa, West Africa, South Africa
- Dedicated sales, service and spares team in each countries for 24X7 support to customers
- Mahindra & Mahindra local office in each country with full-fledged infrastructure
- Dedicated technical support team in India round the clock for support to international customers

- PRESENT
- COMING UP

ABOUT EARTHMASTER

For decades, earth-moving contractors in the developing world had to make do with products of dated technology. Mahindra Construction Equipment offers the choice to break free from the limitations of old technology. The Mahindra EarthMaster is the Next Generation of earth-moving equipments backed by the engineering capabilities, manufacturing strength, distribution, reach and after sales service of Mahindra & Mahindra.

Mahindra's Product Development team has utilized extensive consumer insight and feedback to develop this product which is built to withstand India's rough terrain and heavy usage. In addition, the product offers cutting-edge features using the latest vehicle systems and technologies at prices that are within reach of the mass market.

Today, over 5,500 Mahindra EarthMaster across the country not only help in various earthwork activities both in rural and urban India but also provide helping hand in construction, small demolitions, landscaping, etc. Over 250+ customers with more than one Mahindra EarthMaster and 50+ institutional customers which includes municipal corporations, public works and water resources department among others have trusted and reaped benefit from Mahindra EarthMaster.

The Mahindra EarthMaster brand of backhoe loaders is available in following variants: EarthMaster VX, EarthMaster SX, EarthMaster SX 4WD with option of 6 in 1 bucket, EarthMaster SX90. In the same category, the front-end loader is also available as Mahindra EarthMaster SXL with option of 2 & 4 wheel drive.



ABOUT ROADMASTER

The Mahindra RoadMaster is range of road construction machinery focused on providing Solutions for the Developing World. The first set of products under the Mahindra RoadMaster brand, G75 and G90, are category creating motor graders which deliver Affordable Uncompromised Mechanization suitable for constructing small to medium roads as well as widening of state & national highways. They also have an excellent application in railways network expansion and large industrial land development.

Current motor grader market in India and other developing countries is dominated by imports and foreign manufacturer based in developed countries like USA, Japan, China, Sweden etc. These products are made keeping in mind needs of the developed world where the proportion of multilane highways is more than 60%. Out of 52+ lakh km of road network in India only 2.5 lakh km of road are multilane highways making them a less than 5% contributor. While the main district roads (MDR), other district roads (ODR) & village roads (VR) constitute more than 70% of Indian roads and almost similar is the case with other developing countries. The top width for these roads typically varies between 3 m to 7.5 m and hence the work content as well as financial budgets are significantly lesser compared to multilane highways.

Motor graders designs & products borrowed from the developed world are too large hence grossly unutilized and too expensive hence non-viable for a large proportion of roads construction in India. This has led to very limited use of motor graders in India on road projects other than highways resulting in issues like slow pace of work, less than optimal quality etc. Absence of tailor-made equipment suitable for developing world leads to sub-optimal methods with limited mechanization and large labour force deployment. This leads to issues such as bad quality of roads and speed of road making apart from availability and control of labour force in large numbers.

Whilst RoadMaster G75 uses a 79 HP, G90 adorns 91 HP DITEC engine developed by Mahindra. Both are coupled with a 3 m (10 ft) wide blade. It is optimized to deliver zero compromise grading at approximately 50% and 75% productivity respectively compared to conventional motor graders available in the market. This productivity suits the amount of material supply on most road construction sites in India and other developing countries allowing its users to maximize equipment utilization. The cost of ownership of G75 and G90 is much less than conventional motor graders of prominent brands leading to affordable uncompromised mechanization and much less capital investment.





ABOUT ATTACHMENT

Mahindra Construction Equipment is expanding its range of products and attachments to offer a multipurpose utility machine. In this manner, customer would have a tool for every job – digging, breaking, loading etc. and could alter the machine to suit a diverse range of applications.

With a genuine attachment, be assured that the performance would be unhindered and every attachment offers:

Maximum return on Investment

With a range of attachments, your equipment would serve a varied set of applications leading to greater utilization, hence giving better value for money and higher return on investment.

Perfect Match for Optimum Performance

Every MCE attachment performs most efficiently when aligned with the equipment. The attachments are designed and tested to operate at its finest performance with the equipment.

Peace of Mind with Warranty

The fixture of an approved attachment gives peace of mind that both the equipment and attachment are fully backed by a warranty supported by the dealer network. Also, trained professionals for aftersales services are available to ensure higher uptime.



ABOUT RENTAL SERVICES

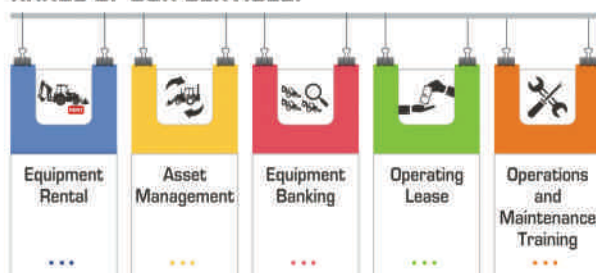


Mahindra Construction Equipment Rental Service offers a complete range of equipment solutions with technically competent operations and maintenance team serving a wide range of infrastructure sectors like highways, power, telecom, real estate, ports, railways, airports, etc. With aim to become leading organized complete equipment solution provider by following the best practices of innovation, transparency and service excellence, MCE Rental Services intends to partner the infrastructure industry by providing timely and innovative infrastructure equipment solutions.

The bouquet of services offerings reduces the risks and enhance profitability of customers due to:

- Innovative equipment solutions
- Extensive footprints across the territories
- Large variety of fleet across makes and models
- Managing fleet equipment across business lines
- High quality asset management capability
- In depth knowledge and expertise in equipment rental and allied business

RANGE OF OUR SERVICES:





EARTH DRILL/AUGER



ROCK BREAKER MD



POLE ERECTOR



SUGARCANE GRABBER



STANDARD BACKHOE
BUCKET



RIPPER TOOTH



DITCH CLEANING BUCKET



TAPERED DITCH BUCKET



DOZER BLADE



JIB CRANE



STANDARD LOADER BUCKET



FORKLIFT



LOADER COAL BUCKET



6-in-1 LOADER BUCKET



SQUARE HOLE BUCKET

WHY MCE RENTAL SERVICES

	MCE	Other Players
Standard Terms & Conditions	✓ Set of standard terms and condition but at the same time we are flexible as per site requirement	✗ Standards are rigid and most of the time does not suit with certain site situations
Documentation	✓ Properly designed documents & procedure	✗ Not always proper documentation
PDI Formats	✓ Deliver equipment after PDI approval	✗ No such practice might be undertaken
Cost Effective Solutions	✓ Assurance of the best price in the market	✗ More inclined towards own profitability
Site Report along with Equipment Utilization & Availability	✓ Provide daily report on equipment utilization & availability	✗ Such practice is not always undertaken
Service Response	✓ Immediate action on service issues irrespective of cost	✗ Not always prompt response in service and if major expenses are involved then advance payment is demanded
Inventory Backup	✓ Inventory for immediate action	✗ Inventory is not necessarily kept
Experience Manpower	✓ Experienced and skilled manpower	✗ Experienced manpower not always available
Manpower Training on Maintenance	✓ Arrange training programs	✗ Not necessarily undertaken
Crew Behavior	✓ Professional	✗ Not always Professional

TECHNICAL SPECIFICATIONS:

MAHINDRA EARTHMASTER SX

Features	
Excavator Controls	Mechanical Levers
Instrument Cluster	Analog
	DiGi sense - GPS, GPRS base vehicle health monitoring & tracking system (Optional)
Warranty	1 year^, Unlimited Hours
Banana Boom Design	Yes
180 Degree Revolving Seat with Arm Rest and Seat Belt	Yes
Mobile Charger	Yes
Storage Box	Yes
Engine	
Mahindra DITEC Diesel Engine	Turbocharged Intercooled
No. of Cylinders	4
Displacement	3532 cc
Gross Horse Power	58.8 kw (79.89 HP) @ 2300 +/- 50 RPM
Peak Gross Torque	306 Nm @1300-1700 RPM
Hydraulics	
System Type and Pressure	Open Centre: 250 Bars (3675 PSI)
Pump Type	Fixed Displacement, Gear Pump
Pump Delivery	115 litres @ 2350 RPM
Control Valves (Backhoe and Loader)	Sectional Valves (Sandwich Type, Individually Replaceable)
Transmission	
Type: Four Speed (4 Forward, 4 Reverse), Two Wheel Drive (2 WD), Synchro Shuttle Transmission with Electrically Operated Reversing Shuttle and Torque Converter having Stall Ratio of 2.64:1	
Axles	
Rear Axle: Rigidly mounted drive axle, with outbound planetary final drives, driven by short drive shaft.	
Front Axle: Centrally pivoted, non-driven unbalanced type axle, with total oscillation of 16°, with remote greasing facility for the main pin.	
Brakes	
Service Brakes: Hydraulically actuated, self adjusting, maintenance free, oil immersed multi-disc, on the rear axle, operated by independent foot pedals, joined together for normal operation.	
Parking Brakes: Hand operated, inbuilt in the rear axle, low maintenance.	
Electricals	
Dust-proof switches, ignition controls for engine start and stop, horn and reverse alarm, water and dust-proof electrical connectors. 100Ah, 12V, Low maintenance battery. Alternator: 90 Ampere.	
Cabin	
Ergonomically designed cabin with contemporary styling, excellent operator comfort, day and night time visibility, rear view mirror, multiple storage options, two door access, sliding rear window, stowable doors and an integrated tool box. Cabin frame built with sturdy tubular sections and protected with CED technology for longer rust protection. Fully adjustable premium operator seat with safety belt. Excellent leg space, conveniently positioned control levers and pedals. Low line curved hood to enhance operator visibility.	
Steering	
Front wheel hydrostatic power steering with priority function and pressure relief setting of 145 bar.	

Operator Information

Front Cluster:

With speedometer, turn and head light signals indicating RPM, kilometers run, fuel level, temperature.

Excavator Performance

Maximum Dig Depth	4959 mm*
Reach at Ground Level to Slew centre	5794 mm
Reach at Full Height to Slew Centre	2676 mm
Maximum Working Height	6043 mm*
Maximum Load Over Height	4302 mm*
Excavator Pivot Mechanism	Side Shift
Side Reach to the Centre of the Machine	6324 mm
Excavator Bucket Breakout Force	5199 kg
Excavator Arm Breakout Force	3182 kg
Boom Hydraulic lift Capacity	1449 kg
Backhoe Bucket Capacity	0.27 CuM

Loader Performance

Dump Height	2708 mm
Load Over Height	3253 mm
Reach at Ground	1350 mm
Maximum Reach at Full Height	1115 mm
Loader Bucket Breakout Force	6243 kg
Loader Arm Breakout Force	5594 kg
Loader Lift Capacity at Full Height	3428 kg
Loader Bucket Capacity	1.1 CuM, Also available in 6-in-1 bucket

Speed (Gear - F/R)

1st F/R	5.66 km/hr
2nd F/R	9.11 km/hr
3rd F/R	20.00 km/hr
4th F/R	39.97 km/hr

Service Capacities

	System Capacities	Service Replacement Capacities
Hydraulic Oil Capacity	100 Litres	50 Litres
Fuel Tank	120 Litres	120 Litres
Engine Coolant	17 Litres	17 Litres
Engine Oil	13.7 Litres	13 Litres
Transmission	19.20 Litres	10.20 Litres
Rear Axle	17.10 Litres	17.10 Litres

Tyres	Standard (Traction/Industrial)	Optional (Heavy Duty/ HD)
Front	9 X 16 -16PR	9 X 16 -16PR
Rear	16.9 X 28 - 12PR	14 X 25 -20PR / 12PR

Turning Radius

Outside Bucket (Inner Wheels Braked)	4494 mm
Outside Wheels (Inner Wheels Braked)	3091 mm
Outside Bucket (Inner Wheels Not Braked)	5697 mm
Outside Wheels (Inner Wheels Not Braked)	4484 mm

Shipping Weight of Vehicle

Shipping Weight of the Machine with Industrial Tyres	7430 kgs
Shipping Weight of Machine with Heavy Duty Tyres	7580 kgs

Technical specifications, features are subjected to change without prior notice. Image used are for representative purpose only. Accessories shown may not be a part of the standard product. Actual colours may vary. ESOE™ Standard exclusions apply. For further details on the warranty, please contact your dealer. *According to government approved independent agency, under manufacturer standard PER/VEH/21, certified at 1450 RPM. **When compared to a standard excavation cycle. **Value measured under specific measuring condition.

TECHNICAL SPECIFICATIONS:

MAHINDRA EARTHMASTER VX

Features	
Excavator Controls	Joysticks
Instrument Cluster	DIGi sense - GPS, GPRS base vehicle health monitoring & tracking system
Voice Enabled Operator Instructions	Yes
Warranty	1 year [^] Standard Warranty, Unlimited Hours
Banana Boom Design	Yes
180 Degree Revolving Seats with Arm Rest and Seat Belt	Yes
FM Radio with 2 way Speaker System	Yes
Mobile Charger	Yes
Storage Box	Yes
Engine	
Mahindra DITEC Diesel Engine	Turbocharged Intercooled
No. of Cylinders	4
Displacement	3532 cc
Gross Horse Power	58.8 kw (79.69 HP) @ 2300 +/- 50 RPM
Peak Gross Torque	306 Nm @ 1300-1700 RPM
Hydraulics	
System Type and Pressure	Open Centre, 250 Bars (3675 psi)
Pump Type	Fixed Displacement Gear Pump
Pump Delivery	115 litres @ 2350 RPM
Control Valves (Backhoe and Loader)	Sectional Valves (Sandwich Type, Individually Replaceable)
Transmission	
Type: Four Speed (4 Forward, 4 Reverse), Two Wheel Drive (2 WD), Synchro Shuttle Transmission with Electrically Operated Reversing Shuttle and Torque Converter having Stall Ratio of 2.64:1	
Speed (Gear - F/R)	
1st F/R	5.66 km/hr
2nd F/R	9.11 km/hr
3rd F/R	20 km/hr
4th F/R	39.97 km/hr
Axles	
Rear Axle: Rigidly mounted drive axle, with outbound planetary final drives, driven by short drive shaft.	
Front Axle: Centrally pivoted, non-driven unbalanced type axle, with total oscillation of 16°, with remote greasing facility for the main pin.	
Brakes	
Service Brakes: Hydraulically actuated, self adjusting, maintenance free, oil immersed multi-disc, on the rear axle, operated by independent foot pedals, joined together for normal operation.	
Parking Brakes: Hand operated, inbuilt in the rear axle, low maintenance.	
Electricals	
Dust-proof switches, ignition controls for engine start and stop, horn and reverse alarm, water and dust proof electrical connectors. 100Ah, 12V, Low maintenance battery. Alternator: 90 Ampere.	
Cabin	
Ergonomically designed cab with contemporary styling, excellent operator comfort, day and night time visibility, rear view mirror, multiple storage options, two door access, sliding rear window, stowable doors and an integrated tool box. Cabin frame built with sturdy tubular sections and protected with CED technology for longer rust protection. Fully adjustable premium operator seat with safety belt. Excellent leg space, conveniently positioned control levers and pedals. Low line curved hood to enhance operator visibility.	
Steering	
Front wheel hydrostatic power steering with priority function and pressure relief setting of 145 bar.	

Operator Information and Entertainment System

Front Cluster: Water and Dust-proof, with speedometer, Turn and Head Light signals.

Right Side Cluster:

- LCD Display screen Indicating RPM, Kilometers Run, Hours Run, Fuel Level, Temperature
- LCD Display Screen and Voice Messages in Six Regional Languages
- One can enjoy music with its in-built FM Radio and Speaker System

Excavator Performance

Maximum Dig Depth	4959 mm ^a
Reach at Ground Level to Slew centre	5794 mm
Reach at Full Height to slew centre	2676 mm
Maximum Working Height	6043 mm ^a
Maximum Load Over Height	4302 mm ^a
Excavator Pivot Mechanism	Side Shift
Side Reach to the Centre of the Machine	6324 mm
Excavator Bucket Breakout Force	5199 kg
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Boom Hydraulic lift Capacity	1449 kg
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Service Capacities	System Capacities	Service Replacement Capacities
Hydraulic Oil Circuit Capacity	100 Litres	50 Litres
Fuel Tank	120 Litres	120 Litres
Engine Coolant	Ready Mix (17 Litres)	17 Litres
Engine Oil	13.7 Litres	13 Litres
Transmission	19.2 Litres	10.2 Litres
Rear Axle	17.10 Litres	17.10 Litres

Tyres	Standard (Traction) Indu.	Optional (Heavy Duty)
Front	9 X 16-16PR	9 X 16-16PR
Rear	16.9 X 28-12PR	14 X 25-20PR / 12PR

Turning Radius

Outside Bucket (Inner Wheels Braked)	4494 mm
Outside Wheels (Inner Wheels Braked)	3091 mm
Outside Bucket (Inner Wheels Not Braked)	5697 mm
Outside Wheels (Inner Wheels Not Braked)	4464 mm

Shipping Weight of Vehicle

Shipping Weight of the Machine with Industrial Tyres	7430 kg
Shipping Weight of Machine with Heavy Duty Tyres	7580 kg

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TECHNICAL SPECIFICATIONS:

MAHINDRA EARTHMASTER SX 4 WHEEL DRIVE (4WD)

Features	
Excavator Controls	Mechanical Levers
Instrument Cluster	Analog
	DIGI sense - GPS, GPRS base vehicle health monitoring & tracking system [Optional]
Warranty	1st Year* Standard Warranty, Unlimited Hours
Banana Boom Design	Yes
180 Degree Revolving Seats with Arm Rest and Seat Belts	Yes
Storage Box	Yes
Engine	
Mahindra DITEC	Turbocharged Intercooled Diesel Engine
No. of Cylinders	4
Displacement	3532 cc
Gross Horse Power	58.8 kw [79.89 HP] @ 2300 RPM
Peak Gross Torque	306 Nm@ 1300-1700 RPM
Hydraulics	
Optimized hydraulic system with fixed displacement gear pump delivering 115 liters at 2350 RPM, Circuit operating at 250 bars (3675 psi)	
System Type and Pressure	Open centre: 250 bars (3675 PSI)
Pump Type	Fixed Displacement Gear Pump
Pump Delivery	115 LPM @ 2350 RPM
Control Valves [Backhoe Loader]	Sectional Valve [Sandwich Type, Individually replaceable]
Transmission	
Four speed (four forward, 4 reverse), Low Noise, Four Wheel Drive (4WD), Synchro Shuttle Transmission with Electrically operated reversing shuttle and torque converter having Stall Ratio of 2.64:1	
Axles	
Rear Axle: Rigidly mounted drive axle, with outbound planetary final drives, driven by short drive shaft.	
Front Axle: Centrally pivoted, driven and steered for 4 wheel drive axle, with total oscillation of 16°	
Brakes	
Service Brakes: Hydraulically actuated, self-adjusting, maintenance free, oil immersed multi-disc, on the rear axle, operated by independent foot pedals, joined together for normal operation.	
Parking Brakes: Hand operated, inbuilt in the rear axle, low maintenance.	
Electricals	
Dust-proof switches, ignition controls for engine start, horn and reverse alarm, water and dust proof electrical connectors, 100Ah, 12V, Low maintenance battery. Alternator: 90 Ampere.	
Cabin	
Ergonomically designed air-conditioned cabin with contemporary styling, excellent operator comfort, day and night time visibility, rear view mirror, multiple storage options, two door access, sliding rear window, stowable doors and an integrated tool box. Cabin frame built with sturdy tubular sections and protected with CED technology for longer rust protection. Fully adjustable premium operator seat with safety belt. Excellent leg space, conveniently positioned control levers and pedals. Low line curved hood to enhance operator visibility.	
Steering	
Front wheel hydrostatic power steering with priority function and manual override in case of engine or hydraulic power failure. Working pressure of 145 bar.	

Operator Information

Front Cluster:

With speedometer, turn and head light signals indicating RPM, Kilometers run, hours run, fuel level, temperature.

Excavator Performance

Maximum Dig Depth	4959 mm**
Reach at Ground Level to Slew Centre	5761 mm
Reach at Full Height to Slew Centre	2676 mm
Maximum Working Height	6043 mm*
Maximum Load Over Height	4302 mm*
Excavator Pivot Mechanism	Side Shift
Side reach to the Centre of the Machine	6291 mm
Excavator Bucket Breakout Force	5199 kg
Excavator Arm Breakout Force	3182 kg
Lift Capacity Lift Bucket Pivot at full Reach	1449 kg
Backhoe Bucket Capacity	0.27 CuM

Loader Performance

Dump Height	2715 mm
Load Over Height	3267 mm
Maximum Reach at Full Height	1100 mm
Loader Bucket Breakout Force	6243 kg
Loader Arm Breakout Force	5594 kg
Loader Lift Capacity at Full Height	3428 kg
Loader Bucket Capacity	1.1 CuM also available in 6-in-1 bucket.

Speed (Gear - F/R)

1st F/R	5.66 Km/hr
2nd F/R	9.11 Km/hr
3rd F/R	20.00 Km/hr
4th F/R	39.97 Km/hr

Service Capacities

	System Capacities	Service Replacement Capacities
Hydraulic Oil Capacity	100 Litres	50 Litres
Diesel Tank	120 Litres	120 Litres
Engine Coolant	17 Litres	Ready Mix (17 Litres)
Engine Oil	13.7 Litres	13 Litres
Transmission Oil	22 Litres	12 Litres
Rear Axle Oil	17.10 Litres	17.10 Litres
Front Axle Oil	9.10 Litres	9.10 Litres

Tyres

	Standard (Traction)	Optional (Heavy Duty)
Front	12.5 x 18-12 PR	12.5 x 18-12 PR
Rear	16.9 x 28-12 PR	14 x 25-20 PR / 12 PR

Turning Radius

Outside Bucket (Inner Wheels Braked)	4494 mm
Outside wheels (Inner Wheels Braked)	3083 mm
Outside Bucket (Inner Wheels Not Braked)	5099 mm
Outside Wheels (Inner Wheels Not Braked)	3825 mm

Shipping Weight of Vehicle

Shipping weight of the Machine with Industrial Tyres	7730 kg
Shipping weight of Machine with HD Tyres	7880 kg

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TECHNICAL SPECIFICATIONS:

MAHINDRA EARTHMASTER SXL

Engine	
Model	4B05-1A-CEV
Emission Standard	BSIII
Type	Turbocharged Intercooled
No. of Cylinders	4
Displacement	3532 cc
Gross Horse Power	58.8 kw (79.89 HP) @ 2300 +/- 50 RPM
Peak Gross Torque	306 Nm @ 1300-1700 RPM
Hydraulics	
System Type and Pressure	Open Centre : 250 bars (3675 psi)
Pump Type	Fixed Displacement, Gear Pump
Pump Delivery	115 litres @ 2350 RPM
Control Valves (Backhoe and Loader)	Sectional Valves (Sandwich Type, Individually Replaceable)
Transmission	
Type: Four Speed (4 Forward, 4 Reverse), Two Wheel Drive with option of Four Wheel Drive (4 WD), Synchro Shuttle Transmission with Electrically Operated Reversing Shuttle and Torque Converter having Stall Ratio of 2.64:1	
Axles	
Rear Axle: Rigidly mounted drive axle, with outbound planetary final drives, driven by short drive shaft	
Front Axle: Centrally pivoted, non-driven unbalanced type axle, with total oscillation of 16°, with remote greasing facility for the main pin.	
Brakes	
Service Brakes: Hydraulically actuated, self adjusting, maintenance free, oil immersed multi-disc, on the rear axle, operated by independent foot pedals, joined together for normal operation.	
Parking Brakes: Hand operated, inbuilt in the rear axle, low maintenance	
Electricals	
Dust proof switches, ignition controls for engine start and stop, horn & reverse alarm, water and dust proof electrical connectors. Electric: 12 V, Battery - 100Ah Alternator: 90 Amp	
Cabin	
Ergonomically designed cab with contemporary styling, excellent operator comfort, day and night time visibility, rear view mirror, multiple storage options, two door access, sliding rear window, stowable doors and an integrated tool box. Cabin frame built with sturdy tubular sections and protected with CED technology for longer rust protection. Fully adjustable premium operator seat with safety belt. Excellent leg space, conveniently positioned control levers and pedals. Low line curved hood to enhance operator visibility. ROPS, FOPS Compliant.	
Steering	
Front wheel hydrostatic power steering, with priority function and pressure relief setting of 145 bar.	
Operator information and Entertainment System	
Cluster with Water and Dust-proof connectors (IP-67) with Speedometer, Turn and Head Light Signals, RPM, Temp. display	
Gear Speed	
1st F/R	5.66 km/hr
2nd F/R	9.11 km/hr
3rd F/R	20.00 km/hr
4th F/R	39.97 km/hr
Service Capacities (System)	
Hydraulic Oil Capacity	100 Litres
Fuel Tank	120 Litres
Engine Coolant	Ready Mix (17 Litres)
Engine Oil	13.7 Litres
Transmission	19.2 Litres
Rear Axle	17.1 Litres

Tyres		2WD IND	2WD HD	4WD IND	4WD HD
Front:		9 X 16 - 16PR		12.5 X 18 - 12 PR	
Rear		16.9 X 28 - 12 PR	14 X 25 - 12 PR/20PR	16.9 X 28 - 12 PR	14 X 25 - 12 PR/20PR
Static Dimension		2WD IND	2WD HD	4WD IND	4WD HD
AA	Overall Length	5869 mm	5860 mm	5864 mm	5856 mm
AB	Wheelbase	2175 mm	2175 mm	2175 mm	2175 mm
AC	Ground Clearance (Stabilizer Foot)	321 mm	301 mm	319 mm	300 mm
	Ground Clearance (Front Axle)	345 mm	350 mm	326 mm	326 mm
	Slew Center to Rear Axle Center	1333 mm	1333 mm	1333 mm	1333 mm
AE	Height to top of Cab	2978 mm	2950 mm	2978 mm	2950 mm
AG	Track Width Rear	1720 mm	1720 mm	1720 mm	1720 mm
AH	Track Width Front	1914 mm	1914 mm	1920 mm	1920 mm
AJ	Width over Bucket	2404 mm	2404 mm	2238 mm	2238 mm
AK	Max Length from Front Axle Center (Carry Position)	1843 mm	1830 mm	1836 mm	1829 mm
AL	Max Length from Rear Axle Center (Carry Position)	3205 mm	3210 mm	3207 mm	3210 mm
AM	Width During Transport Condition	2422 mm	2422 mm	3017 mm	3017 mm
AN	Max Length (Carry Position)	7225 mm	7216 mm	7218 mm	7215 mm
	Approach Angle	63.5°	64°	64°	64°
	Departure Angle	21°	20°	21°	20°
Loader Performance					
M	Dump Height	2708 mm	2713 mm	2715 mm	2723 mm
N	Load Over Height	3253 mm	3276 mm	3267 mm	3277 mm
O	Pin Height	3468 mm	3481 mm	3477 mm	3482 mm
P	Pin Forward Reach	235 mm	205 mm	220 mm	204 mm
Q	Reach at Ground	1350 mm	1350 mm	1350 mm	1350 mm
R	Max Reach at Full Height	1115 mm	1085 mm	1100 mm	1084 mm
S	Reach at Full Height - Bucket Dump	724 mm	691 mm	706 mm	694 mm
T	Below Ground Level Dig Depth	114 mm	115 mm	107 mm	97 mm
U	Roll Back Angle at Ground	43°	44°	43°	44°
V	Dump Angle	44°	43°	44°	44°
W	Roll Back Angle at Max Lift	48°	49°	48°	49°
X	Overall Height Bucket Raised	4405 mm	4417 mm	4415 mm	4415 mm
1	Bucket Breakout Force	6243 kg	6243 kg	6243 kg	6243 kg
2	Loader Arm Breakout Force	5594 kg	5594 kg	5594 kg	5594 kg
	Shovel	1.1 CuM	1.1 CuM	1.1 CuM	1.1 CuM
	Lift Capacity at Max Height	3428 kg	3428 kg	3428 kg	3428 kg
	Payload	1800 kg	1800 kg	1800 kg	1800 kg
Turning Radius					
Inner Wheel Braked					
	Turning Radius outside bucket	4494 mm	4494 mm	4494 mm	4494 mm
	Turning Radius outside wheels	3091 mm	3081 mm	3083 mm	3083 mm
Inner Wheel Not Braked					
	Turning Radius outside bucket	5697 mm	5697 mm	5150 mm	5150 mm
	Turning Radius outside wheels	4464 mm	4464 mm	3825 mm	3825 mm
Shipping Weight of Vehicle					
	Net Weight of Machine	7480 kg	7634 kg	7480 kg	7634 kg

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TECHNICAL SPECIFICATIONS:

MAHINDRA EARTHMASTER SX 90 4WD

Engine		
Model	4915-IA-CEV	
Emission Standard	BS III	
Type	Turbocharged Intercooled	
No. of Cylinders	4	
Displacement	3532 cc	
Gross Horse Power	91 HP (66.9 kW) @ 2200 RPM	
Peak Gross Torque	345 Nm \pm 5% @ 1400 - 1600 RPM	
Hydraulics		
System Type and Pressure	Open Centre: 250 Bars (3675 PSI)	
Pump Type	Fixed Displacement, Gear Pump	
Pump Delivery	117 litres @ 2250 RPM	
Control Valves (Backhoe and Loader)	Sectional Valves (Sandwich Type, Individually Replaceable)	
Transmission		
Type: Four Speed (4 Forward, 4 Reverse), Four Wheel Drive (4 WD), Synchro Shuttle Transmission with Electrically Operated Reversing Shuttle and Torque Converter having Stall Ratio of 2.64:1		
Axles		
Rear Axle: Rigidly mounted drive axle, with outbound planetary final drives, driven by short drive shaft.		
Front Axle: Centrally pivoted, driven unbalanced type axle, with total oscillation of 16°, with remote greasing facility for the main pin.		
Brakes		
Service Brakes: Hydraulically actuated, self adjusting, maintenance free, oil immersed multi-disc, on the rear axle, operated by independent foot pedals, joined together for normal operation.		
Parking Brakes: Hand operated, inbuilt in the rear axle, low maintenance.		
Electricals		
Dust-proof switches, ignition controls for engine start and stop, horn and reverse alarm, water and dust-proof electrical connectors. Electric: 12V, Battery: 100Ah Alternator: 90 Ampere for Non-AC Version		
Cabin		
Ergonomically designed cabin with contemporary styling, excellent operator comfort, day and night time visibility, rear view mirror, multiple storage options, two door access, sliding rear window, stowable doors and an integrated tool box. Cabin frame built with sturdy tubular sections and protected with CED technology for longer rust protection. Fully adjustable premium operator seat with safety belt. Excellent leg space, conveniently positioned control levers and pedals. Low line curved hood to enhance operator visibility. ROPS, FOPS Compliance - Yes. Climate control optional.		
Steering		
Front wheel hydrostatic power steering with priority function and pressure relief setting of 145 bar.		
Operator Information and Entertainment System		
M-Star Non - CAN cluster with Water and Dust-proof connectors (IP-67) with Speedometer, Turn and Head Light Signals. Gauges: Temperature, Oil, Fuel, RPM gauge.		
Gear Speed (Max with IT Tyres)		
1st F/R	5.33 km/hr	
2nd F/R	8.58 km/hr	
3rd F/R	18.83 km/hr	
4th F/R	37.64 km/hr	
Service Capacities	System Capacities	Service Replacement Capacities
Hydraulic Oil Capacity	100 Litres	100 Litres
Fuel Tank	120 Litres	120 Litres
Engine Coolant	Ready Mix (17 Litres)	17 Litres
Engine Oil	13.7 Litres	13 Litres
Transmission	22 Litres	12 Litres
Rear Axle	17.1 Litres	17.1 Litres
Front Axle	9.1 Litres	9.1 Litres

Tyres		Standard (Industrial/Heavy Duty)	
Front		12.5 / 80 X 18 -12PR (IT/HD)	
Rear		16.9 X 28 - 12PR (IT), 14 X 25 - 12PR/20PR (HD)	
Backhoe Static Dimension			
		SX90 4WD IT	SX90 4WD HD
AA	Overall Length	5864 mm	5856 mm
AB	Wheelbase	2175 mm	2175 mm
AE	Height to top of Cab	2950 mm	2950 mm
AF	Overall Height	3665 mm	3634 mm
AG	Track Width Rear	1720 mm	1720 mm
AH	Track Width Front	1920 mm	1920 mm
AJ	Width over Bucket	2404 mm	2404 mm
AK	Max Length From Front Axle Center (Carry Position)	1836 mm	1829 mm
AL	Max Length From Rear Axle Center (Carry Position)	3207 mm	3210 mm
AM	Width During Transport Condition	2422 mm	2422 mm
AN	Max Length (Carry Position)	7218 mm	7215 mm
Backhoe Performance			
A	Max Dig Depth*	4959 mm	4959 mm
B	Reach at ground level to Wheel Center	7092 mm	7101 mm
C	Reach at ground level to Slew Center	5761 mm	5773 mm
D	Reach at full height to Slew Center	2676 mm	2676 mm
E	Side Reach to Center of Machine	8291 mm	8303 mm
F	Max Working Height*	6043 mm	6043 mm
G	Max Load Over Height*	4302 mm	4302 mm
H	King Post Travel	1060 mm	1060 mm
Y	Bucket Tearout Force	5828 kg	5828 kg
Z	Dipper Tearout Force	3182 kg	3182 kg
	Lift capacity to bucket pivot at full reach w/o bucket	1449 kg	1449 kg
	Bucket (Standard)	0.3 CuM	
Loader Performance			
M	Dump Height	2715 mm	2723 mm
N	Load Over Height	3267 mm	3277 mm
O	Pin Height	3477 mm	3482 mm
P	Pin Forward Reach	220 mm	204 mm
Q	Reach at Ground	1350 mm	1350 mm
R	Max Reach at Full Height	1100 mm	1084 mm
S	Reach at Full Height - Bucket Dump	706 mm	694 mm
T	Below Ground Level Dig Depth	107 mm	97 mm
U	Roll Back Angle at Ground	43°	44°
V	Dump Angle	44°	44°
W	Roll Back Angle at Max Lift	48°	49°
X	Overall Height Bucket Raised	4415 mm	4415 mm
1	Bucket Breakout Force	6243 kg	6243 kg
2	Loader Arm Breakout Force	5594 kg	5594 kg
	Shovel	1.1 CuM [8-in-1]	1.1 CuM [8-in-1]
	Lift Capacity at Max Height	3428 kg	3428 kg
	Payload	1800 kg	1800 kg
Turning Radius			
Inner Wheel Braked			
	Turning Radius outside bucket	4494 mm	4494 mm
	Turning Radius outside wheels	3083 mm	3083 mm
Inner Wheel Not Braked			
	Turning Radius outside bucket	5150 mm	5150 mm
	Turning Radius outside wheels	3825 mm	3825 mm
Shipping Weight of Vehicle			
	Net Weight of Machine	7592 kg	7742 kg

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TECHNICAL SPECIFICATIONS:

MAHINDRA ROADMASTER G75

Engine	
Model	Mahindra Ditec 4805 IA BSIII CEV
Form of air aspiration	Turbocharged
No of cylinders	4
Bore	96 mm.
Stroke	122 mm.
Displacement	3532 cc.
High idle rpm	2500 rpm.
Low ideal rpm	850 rpm.
Cooling system	Water cooled
Type of fuel	Diesel
Gross horse power	58.8 kW (79.95 HP) @ 2300 rpm.
Peak gross torque	306 Nm@1300-1700 rpm.
Electrical system voltage	12 V

Operating Specification		
Gross vehicle weight	7740 kg.	
FAW	2060 kg.	
RAW	5680 kg.	
Speed @ gear (kmph)	Forward	Reverse
	1st 4.5 to 6.0	6.0 to 7.5
	2nd 7.5 to 9.0	9.0 to 10.5
	3rd 17.5 to 19.5	
	4th 34.0 to 38.0	
Turning radius outside tyres R1	10 m	
Steering angle inner wheel	45°	
Steering angle outer wheel	32°	

Moldboard	
Base length of MB	2600 mm.
Thickness of Moldboard	16 mm.
Blade height	H19 516 mm.

Cutting Edge (blade)		
Standard Length of Cutting Edge	W8	2600 mm. (3 Piece cutting edge) (1100 + 1100 + 400)
Length of Cutting Edge with Side Extensions	W8"	3000 mm. (4 Piece cutting edge) (1100+1100+400+400)
Width of Cutting Edge	152 mm.	
Thickness of Cutting Edge	16 mm.	

End Bit		
Width	C	200 mm.
Thickness	16 mm.	
Blade pull force (kgs)	3500 max	
Blade down force (kgs)	3500 max	

Dimensions (in mm)		
Distance-between middle & rear axle	L9	1850 mm.
Distance-between front & middle axle	A	4300 mm.
Wheel base	L3	5225 mm.
Distance - Front axle to moldboard - Blade base	L12	1691 mm.
Transport length	L1	7835 mm.
Ground clearance below front axle beam	H18	528 mm.
Minimum ground clearance	H4	467 mm.
Max vehicle height	H1	3290 mm.
Track width - Front	W3F	1674 mm.
Track width - Rear	W3R	1654 mm.
Width- Outside front tires	W1F	2021 mm.
Width- Outside rear tires	W1R	2001 mm.
Width - Transport (without blade extensions)	WW7	2327 mm.
Width - Transport (with blade extensions)	WW7"	2667 mm.
Distance outside front tyres and blade (without blade extensions)	B	153 mm.
Distance outside front tyres and blade (with blade extensions)	B"	323 mm.

Blade Range		
Circle rotation angle	A8	30° from transverse of Vehicle
Circle drive	Hydraulic cylinders with no end mechanical stoppers	
Blade side shift (LH/RH)	W15	513 mm.
Blade tilt angle/Bank cut angle (LH/RH) at ground level measured on blade	A9	(20°/15°)
Blade tilt angle/Bank cut angle (LH/RH) at ground level measured on drawbar	A9"	(25.6°/20°)
Blade pitch angle at ground line	A11	Forward 40° Backward 15°
Blade without extension outside front tyres with blade positioned parallel to wheel axis	W9	289.5 mm.
Blade outside front tyres with blade positioned parallel to wheel axis	W9"	489.5 mm.
Blade lift at normal blade pitch angle	H20	400 mm.
Max Blade cut depth below ground at nominal blade angle	D	300 mm.
Attachment oscillation angle	E	Upward 15° Downward 15°

Transmission	
Model Name	Carraro 4WD Transmission
Gear Ratios	Forward / Reverse
1st	5.603 / 4.643
2nd	3.481 / 2.884
3rd	1.585 / 1.313
4th	0.793 / 0.657
Torque converter ratio	2.64
Front Axle	
Type	None Driven, Steerable, Central Pivoted
Loading Capacity (TON)	8
Middle Axle	
Type	Driven, Non-Steerable, Rigid
Reduction ratio, Differential	2.75
Reduction wheel end	6.932
Total reduction ratio	19.04
Rear Axle	
Type	Driven, Non-Steerable, Central Pivoted
Reduction ratio, Differential	2.75
Reduction wheel end	6.932
Total reduction ratio	19.04
Tyres & Wheels	
Tyre Spec	13 X 24 - 12 PR
SLR	600
DLR	603
Wheel Rim size	9 X 24
Tyre Pressure (mrf)	
Front / Middle / Rear	44 psi
Brakes	
Service brake type	Foot operated hydraulically actuated oil immersed disc in middle axle
Parking brake type	Hand operated, mechanically actuated oil immersed disc in middle axle

Steering	
Type	Power Steering
	Load sensing with priority valve 200 cc
	Emergency steering in case of pump failure
Electrical	
System voltage	12 V
Battery rating	12 V, 100 AH
Alternator type	12 V, 90 Amp
Hydraulics	
System	Open centre
Pump type	Fixed displacement Tandem Gear Pump, 21 cc + 21 cc
Max pump flow rate	46 Liters @ 2300 rpm
Max working pressure	180 bar
Refill qty	50 liters
System capacity	60 liters
Other feature	Load holding with pressure relief valves for lift and sensing cylinder
Service Capacities	
Hydraulic tank	50 Liters @ 2000 hrs
Fuel tank	85 Liters
Engine coolant	17 Liters @ 1000 hrs
Engine oil	13.5 Liters @ 500 hrs
Transmission	16 Liters @ 1000 hrs
Middle Axle or Rear Axle (Differential)	14.5 Liters @ 1500 hrs for each axle
Middle Axle or Rear Axle (Final Drive)	1.5 Liters (on each wheel end) @ 1500 hrs
Optional Fitments	
Ripper	5 Tyne
Dozer	1.98 meter Width

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TECHNICAL SPECIFICATIONS:

MAHINDRA ROADMASTER G90

Engine			
Model	Mahindra DiTec 4915 IA BSIII CEV		
Form of air aspiration	Turbocharged		
No of cylinders	4		
Bore	96 mm.		
Stroke	122 mm.		
Displacement	3532cc		
High idle rpm	2400+/- 50 rpm		
Low ideal rpm	850+/- 50 rpm		
Cooling system	Water cooled		
Type of fuel	Diesel		
Gross horse power	66.9 kW (91 HP) @ 2200 ± 50 rpm		
Peak gross torque	345 Nm @ 1400 - 1600 rpm		
Electrical system voltage	12 V		
Operating Specification			
Gross vehicle weight	8350±167 kg.		
FAW	2800±56 kg.		
RAW	5500±110 kg.		
Speed @ gear (kmph)	Forward	Reverse	
	1st	4.5 to 6.0	5.5 to 7
	2nd	7.5 to 9.0	9.0 to 10.5
	3rd	16.5 to 18.5	
	4th	33.0 to 36.5	
Turning radius outside tyres	10 m		
Steering angle inner wheel	45°		
Steering angle outer wheel	32°		
Moldboard (in mm)			
Base length of M	3000+/-15		
Thickness of Moldboard	16+/- 0.5		
Blade height	H19	516+/-3	
Cutting Edge (blade) (in mm)			
Length of cutting edge w/o side extension (optional)	W8	2600+/-15 (3 Piece cutting edge) (1100 + 1100 + 400)	
Standard length of cutting edge	W8"	3000+/-15 (4 Piece cutting edge) (1100+1100+400+400)	
Width of Cutting Edge	152+/-2		
Thickness of Cutting Edge	16+/-0.5		

End Bit		
Width (mm)	C	200+/-1
Thickness (mm)		16+/-0.5
Blade pull force (kN)		27
Blade down force (kN)		27
Dimensions (in mm)		
Distance-between middle & rear axle	L9	1850
Distance-between front & middle axle	A	4300
Wheel base	L3	5225
Distance - Front axle to moldboard - Blade base	L12	1691
Transport length	L1	8578
Ground clearance below front axle beam	H18	528
Minimum ground clearance	H4	467
Max vehicle height	H1	3290
Track width - Front	W3F	1674
Track width - Rear	W3R	1654
Width- Outside front tires	W1F	2021
Width- Outside rear tires	W1R	2001
Width - Transport (Over rear counter weight)	WW7'	2080
Blade Range		
Circle rotation angle	A8	50°+/-1.5° from transverse of vehicle
Circle drive	Hydraulic cylinders with no end mechanical stoppers	
Blade side shift (LH/RH)	513+/-2.6 mm	
Blade tilt angle/Bank cut angle (LH/RH) at ground level measured on drawbar	(25.6°/20°)+/-2	
Blade pitch angle at ground line	A11	Forward 40°+/-2 Backward 5°+/-2
Blade lift at normal blade pitch angle	395+/-25*	
Max Blade cut depth below ground at nominal blade angle	300+/-25*	
Attachment oscillation angle	Upward 10°+/-2 Downward 15°+/-2	

Transmission	
Model Name	Carraro 4WD Transmission
Gear Ratios	Forward / Reverse
1st	5.603 / 4.643
2nd	3.481 / 2.884
3rd	1.585 / 1.313
4th	0.793 / 0.657
Torque converter ratio	2.64

Front Axle	
Type	Non Driven, Steerable, Central Pivoted
Loading Capacity (TON)	8

Middle Axle	
Type	Driven, Non-Steerable, Rigid
Reduction ratio, Differential	2.75
Reduction wheel end	6.932
Total reduction ratio	19.04

Rear Axle	
Type	Driven, Non-Steerable, Central Pivoted, $\pm 5^\circ$ Oscillation angle
Reduction ratio, Differential	2.75
Reduction wheel end	6.932
Total reduction ratio	19.04

Tyres & Wheels	
Tyre Spec	13 X 24 - 12 PR
SLR	600+/-10
DLR	603+/-10
Wheel Rim size	9 X 24

Tyre Pressure	
Front / Middle / Rear	44 \pm 2 psi

Brakes	
Service brake type	Foot operated hydraulically actuated oil immersed disc in middle axle
Parking brake type	Hand operated, mechanically actuated oil immersed disc in middle axle

Steering	
Type	Power Steering
Steering valve	Load sensing with priority valve 200 cc
Other feature	Emergency steering in case of pump failure

Electrical	
System voltage	12 V
Battery rating	12 V, 100 AH
Alternator type	12 V, 90 Amp

Hydraulics	
System	Open centre
Pump type	Fixed displacement Tandem Gear Pump, 26 cc + 26 cc
Max pump flow rate	54 Liters @ 2200 rpm
Max working pressure	200+/-5 bar
Refill qty	50 liters
System capacity	60 liters
Other feature	Load holding with pressure relief valves for lift and sensing cylinder

Service Capacities	
Hydraulic tank	50 Liters @ 2000 hrs
Fuel tank	85 Liters
Engine coolant	17 Liters @ 1000 hrs
Engine oil	13.5 Liters @ 500 hrs
Transmission	18 Liters @ 1000 hrs
Middle Axle or Rear Axle (Differential)	14.5 Liters @ 1500 hrs for each axle
Middle Axle or Rear Axle (Final Drive)	1.5 Liters (on each side) @ 1500 hrs

Optional Fitment	
Ripper	5 Tyre

Dozer Dimensions (in mm)	
Dozer Height Above Ground	585
Dozer Blade Height	769
Dozer Blade Width	1980
Dozer length from Front Tyres in transport condition	L 1500

Ripper Dimensions (in mm)		
Ripper Height Above Ground	8	561
Ripper Digging Depth		240
Number of Ripper Shank Module		5
Ripper Length from Tyre in transport condition		1730

Technical specifications, features are subjected to change without prior notice. Image used are for representative purpose only. Accessories shown may not be a part of the standard product. Actual colours may vary. E&O.E.*Standard exclusions apply. For further details on the warranty, please contact your dealer. *According to government approved independent agency, under manufacturer standard PER/VEH/21 certified at 1450 RPM. **When compared to a standard excavation cycle. ***Value measured under specific measuring condition.

Mahindra Construction Equipment

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