

MH3022

Wheel Material Handler

2017



Engine

Engine Model	Cat® C7.1 ACERT™		
Emissions	U.S. EPA Tier 4 Final, EU Stage IV		
Power (Maximum)			
ISO 9249/SAE J1349 at 1,550 rpm	126 kW	169 hp	
ISO 9249/SAE J1349 at 1,550 rpm, metric		171 hp	
ISO 14396 at 1,550 rpm (gross)	129.4 kW	174 hp	
ISO 14396 at 1,550 rpm (gross), metric		176 hp	

Weights

Operating Weight with Attachment	20 705-	45,647-
	25 450 kg	56,107 lb

Working Ranges (MH boom, stick 4900 mm [16'1"])

Maximum Reach (stick pin)	11 005 mm	36'1"
Maximum Height (stick pin)	12 065 mm	39'7"

Drive

Maximum Travel Speed	25 kph	15.5 mph
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Introduction

We know that when it comes to material handling equipment, your success depends on high productivity and dependable performance.

The MH3022 anchors the smaller end of the new Cat wheel material handlers. It offers a great compromise between the agility, versatility and performance of a wheeled excavator and the stability, efficiency and power needed to cope with harsh environments and applications of industrial, scrap, waste recycling and bulk handling operations, which call for safe, quality and reliable products, while generating a low operating cost to the owner.

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The new MH3022 is here to help you take on the wide variety of challenges you face every day, more easily and at a lower cost.

Commitment from the Ground Up.



Next Generation Key Features

Commitment from the Ground Up



Safety and Comfort Are Not Optional

- Embedded smart devices help enforce safe behaviors, like the automatic swing lock, brake and axle lock, and safety lever
- The cab contributes to your comfort with limited vibrations and drastically reduced sound levels
- Improved access with new and longer handrails, steps and service platform
- Improved visibility with enlarged glass areas, rear and side cameras and LED working lights



Make the Move to the Next Generation

Refinements. From the whole design to the smallest detail. Convenient features, new advanced and transparent technologies, not only to reduce emissions but to further improve your daily experience when working with our products.

Made to be Efficient

Recognizing that fuel efficiency is directly affected by hydraulic performance, the hydraulic system in the MH3022 is carefully designed to provide the work needed without wasting fuel. A high capacity hydraulic cooling system keeps operating temperatures well-balanced, resulting in longer component life, higher efficiency and lower repair cost.

Made to Keep Your Costs Down

Not only does the machine give you all the performance you need, but it does so while providing a great deal of precision, and speed with an absolute minimum fuel consumption – and zero impact on your efficiency.

Maintenance: Keep it Simple

Ground level and grouped service points, automatic central greasing, dedicated system compartments and many other features that make your maintenance quick and easy.

Made to Make Operation Easy and Pleasant

Have a seat, you will be impressed by the quietness and comfort of the cab. Feel relaxed, we help you make sure you're safe.

Integrated Technologies

Enjoy integrated technologies; they act transparently.

Be Flexible to Win

When you add the multiple Cat attachments that help you do all kinds of jobs, you simply won't find a better machine.





Sustainability

Generations Ahead in Every Way

Fuel Efficiency and Reduced Exhaust Emissions

The engine meets Tier 4 Final/Stage IV emission standards, is powerful and efficient, with an optimized 10% fuel consumption improvement versus the previous model and no impact on your productivity. This means less resource consumption and fewer CO₂ emissions.

Quiet Operation

Outstandingly low sound levels, you won't believe your machine is running.

Transparent Technologies and Longer Service Intervals

- The Eco Mode, Auto Engine Speed Control and Engine Idle Shutdown help further reduce your overall fuel consumption.
- Product Link™ allows remote monitoring of the machine and helps improve overall efficiency.
- Your Cat dealer can help extend service intervals, meaning fewer fluids and disposals, all adding up to lower costs.

Biodiesel and Biodegradable Hydraulic Oil

- The MH3022 has the flexibility of running on either ultra-low-sulfur diesel (ULSD) fuel with 15 ppm of sulfur or less or up to B20 biodiesel fuel blended with ULSD.
- Cat BIO HYDO™ Advanced HEES™ reduces the impact on the environment.

Cat Certified Used

This program is a key element in the range of solutions offered by Caterpillar and Cat dealers to help customers achieve growth at the lowest cost while eliminating waste. Used equipment is inspected, guaranteed and ready for work and customers will benefit from a Caterpillar warranty.

NEW! Blue Angel Certification

This environmental award – supported by the German Federal Environmental Agency and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety – recognizes products that protect both people and the environment by reducing noise and emissions. The requirements to be awarded are more stringent than statutory limits for the Americas and European Union.

Engine

Power, Reliability, and Fuel Economy



The Power and Performance You Need

Constant Power Strategy

Provides a quick response to changing loads, while delivering the same amount of power regardless of operating conditions.

A Transparent Emission Solution That Works.

The Cat C7.1 ACERT engine meets today's Tier 4 Final/Stage IV emission standards, and it does so without interrupting your job process. It is designed to be:

- **Transparent:** no operator intervention
- **Durable:** fit for life Diesel Particulate Filter
- **Efficient:** no work interruption, even in case of extended idling time
- **Simple:** minimum maintenance. Longitudinal engine installation, which further simplifies maintenance

Biodiesel Not a Problem

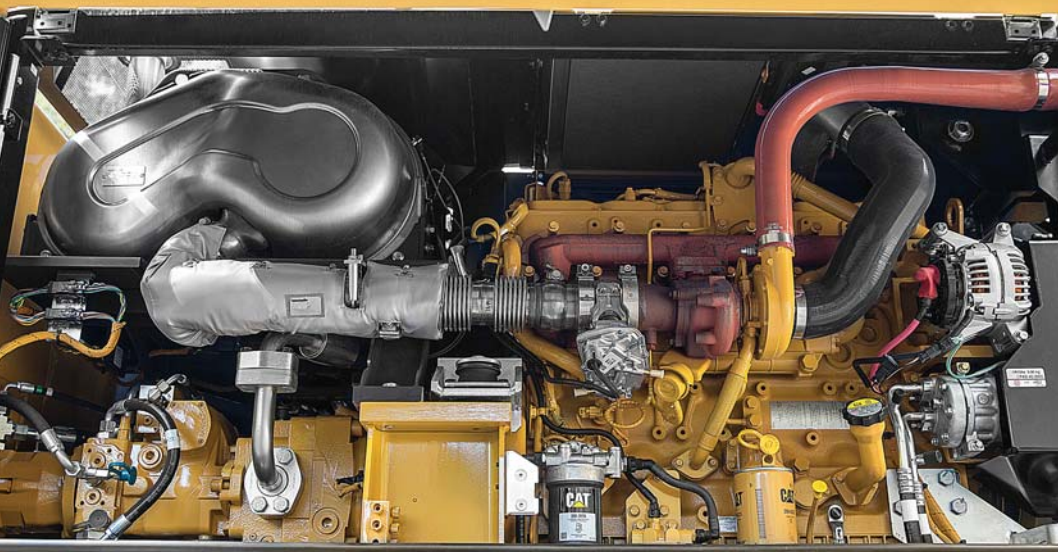
The engine can run on up to B20 biodiesel fuel that meets ASTM 6751 standards – all to give you more potential fuel-saving flexibility.

Proven Technology

To assure that our technology will meet your expectations for reliable trouble-free service, we subjected these engines and technologies to extensive operating hours of test and validation.

Built-in Fuel Savers That Add Up

- **Automatic Engine Speed Control:** lowers engine speed when it is not needed.
- **Engine Idle Shutdown:** turns the engine off when it's been idling for more than a pre-set amount of time.
- **On-Demand Cooling System:** variable speed and on-demand fan.
- **Enhanced Eco Mode:** reduces engine speed while delivering the same power.
- **Automatic Shift to Travel Mode** when you start driving.
- **NEW! Optimized Travel Mode:** travel mode rpm levels are set automatically on-demand only to further reduce fuel consumption.



Hydraulic System

Fast, Precise, Flexible



When it comes to moving material quickly, you need efficient hydraulics – the type the MH Series can deliver.

Efficient Design, Smart and Fast

- **Simple Design** – The hydraulic valve compartment and routings offer a simple and clean design to help ensure durability.
- **Smart Main Hydraulics** – The system allows reducing the load on the engine when not needed, which translates into lower fuel consumption.
- **Dedicated Swing Pump** – A closed hydraulic circuit is dedicated to the swing only. Having two separate pumps, one for the swing and the second for the other functions allows faster and smoother combined movements.

Control Like No Other

- **Electronic Pump Control** – Controllability is one of the main attributes of the MH3022, and one of the key contributors to this is the Electronic Pump Control (EPC) that's designed to improve response time and precision. It puts flow exactly where you need it, when you need it, which means a much smoother operation and greater efficiency.
- **Adjustable Hydraulic Sensitivity** – Allows you to adjust the aggressiveness of the machine according to the application.
- **Stick Regeneration Circuit** – Increases efficiency and helps enhance controllability for higher productivity of straight sticks with linkage.



Well Balanced Cooling Package

The hydraulic oil cooler is mounted side-by-side with the engine radiator and the air-to-air aftercooler (ATAAC). Located separately from the engine and featuring a well-balanced sizing, the new cooling package offers unprecedented up-times even in difficult environments.

Structure – Elevated Cab and Frame

Strength, Flexibility and Mobility



High Visibility – 2400 mm (94.5 in) Elevated Cab

The hydraulic cab riser is designed to be:

- Stable – Wide lift arms, deep box-sectioned design, strong top and bottom links and retractable hydraulic cylinders used to raise the cab for greater stability.
- Fast – Two heavy-duty hydraulic cylinders provide quick and controlled up and down travel.
- Comfortable – The parallelogram design of the linkage allows the cab to remain level at all ranges of motion. Cab movement is also slowed as it reaches the end of the riser stroke, with no sudden start/stop effect.
- Safe – The cab can be lowered using either a lever inside the cab or one on the frame at ground level in the event of a hydraulic malfunction.

Undercarriage Options

Effective hydraulic line routing, transmission protection and heavy-duty axles make the Cat undercarriages perfect for material handler applications. Four different undercarriages are available to provide the stability you need for your applications:

- Material Handling – The Material Handling undercarriage with four welded outriggers is ideal when extra stability is needed.
- Material Handling with Dozer Blade – An optional expansion to the Material Handling Undercarriage includes an additional dozer blade mounted ahead of the front stabilizers to be used to push material commonly encountered in waste and millyard applications.
- Material Handling Narrow undercarriage, specifically designed for limited space applications – Thanks to smaller undercarriage width and length, compared to MH undercarriage, and thanks to its symmetrical design, this MH Narrow undercarriage enhances maneuverability and flexibility in tight areas.
- The standard undercarriage allows for different kinds of stabilizers and blades to be attached either to the front or to the rear.

Heavy-Duty Axles

The front axle offers wide oscillating and steering angles. The transmission is mounted directly on the rear axle for protection and optimum ground clearance. The drive shaft offers long service intervals.

Advanced Disc Brake System

The disc brake system acts directly on the hub instead of the drive shaft to avoid planetary gear backlash. This minimizes the rocking effect associated with working free on wheels.

Driveline Concept

The driveline design effectively utilizes engine torque and power to provide a comfortable ride with improved smoothness.

Travel mode rpm levels are set automatically and “on-demand only” to further reduce fuel consumption.





Front Linkage

No Compromise on Durability

You know that a material handler works only as good as its front linkage is able to handle the job. The MH3022's booms and sticks are purpose built for the loads encountered in material handling applications.

MH Boom

MH booms include high pressure hydraulic lines for opening and closing functionality and medium pressure lines for implement rotation. A short MH boom is available to match indoor applications while retaining the same performance and lifting capabilities.

MH Sticks

MH sticks are equipped with high and medium pressure auxiliary lines. The 4900 mm (16'1") Drop Nose Stick offers the reaching and lifting capabilities required for typical MH applications, while the 4200 mm (13'9") Straight Stick is the best solution when additional attachment functionality is needed.

Special Applications

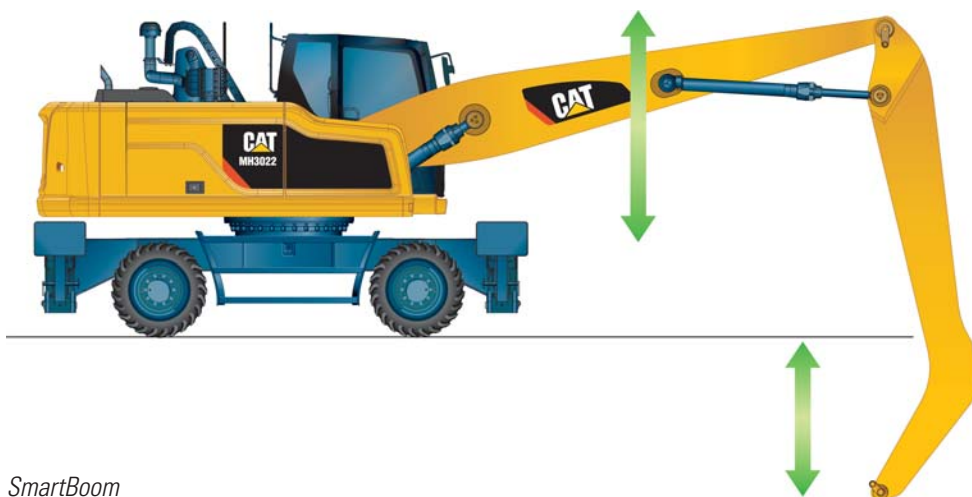
The MH3022 offers the ability to combine the hydraulic cab riser with a traditional excavator front linkage. This combination has been proven in transfer station, mining, and millyard applications.

Standard stick as well as industrial sticks are available in combination with a variable adjustable (VA) or one-piece boom.

SmartBoom

Allow Your Operator to Fully Concentrate on Production

The unique Cat SmartBoom significantly enhances operator comfort and job efficiency by reducing stress and vibrations transmitted to the machine. Loading is more productive and more fuel efficient as the return cycle is reduced while the boom down function does not require pump flow.



SmartBoom

Smart Features

Easier than Ever

Joystick Steering (optional)

Keep both hands on your joysticks even when you need to reposition the machine while simultaneously moving the implements.

Swing and Auto Travel Lock

No need for the operator to bend to engage the swing lock pin.

- Just press a button,
- Align the upper to the lower frame,
- Enjoy the ride: a green indicator confirms the swing and the implements have been automatically locked.
- NEW! The swing lock can be applied independently from the implements lock at low speed (below 5 kph/3.1 mph).

Integrated Pin Code

No need to buy an optional security system to protect your equipment against theft.

- The pin code is integrated into the monitor (standard)
- Entering the right code allows the engine to start

The Machine Security System (MSS – optional) adds even more protection when needed.

Cruise Control

No need to press the pedal all the time.

- Choose the very speed you wish
- Press the quick access button on the monitor
- Enjoy the ride



Load and Go Auto Axle Lock Presses the Pedal for You, Reducing the Number of Actions You Need to Do

The machine automatically detects when the service brake and axle need to be locked (like when working), or unlocked (roading), hence removing the need for the operator to systematically press the pedal. Brake and axle are released automatically by pressing the travel pedal again.



Premium Comfort

Keeps Operators Productive All Shift Long



Designed for the operator, our cabs are unique.

Ergonomic Layout

- Frequently used switches are centralized, kept to the minimum and ideally located close to the joysticks.
- Storage compartments are useful ... when well designed. Several areas provide sufficient room to store a hard hat, a drink, phone, or keys.

Comfortable Seat Options

Our seats provide all the comfort needed for a long day of work, including FULL adjustment. All seats are heated and air suspended. Automatic weight adjustment and ventilated seats are available.

Safety Is Not Optional

FOPS cabs, seat belt alarm, safety lever, sideview camera ... among others.

Details That Make the Difference

Have a look at the cab; you will see it is through details that we improve pleasure of operating.

Smart Controls to Reduce Fatigue

- Features like SmartBoom or joystick steering will be precious to increase your productivity.
- New technologies that work transparently like the swing and auto travel lock or the automatic brake and axle lock, reduce the number of tasks you need to do.

Plug, Charge and Play Your Devices

- The 12V 10A power supply socket is conveniently located for charging your laptop, or a tablet.
- A CD/MP3 radio with speakers and USB port is available.





Simplicity and Functionality

For Ease of Operation

A Cab Just for You – Fully Adjustable


- Seat armrests, in height and angle
- Steering column adjustment, not only tilting fore/aft but also in height
- Hydraulic sensitivity of the machine to make it more or less aggressive
- NEW! Joystick and left pedal controls assignments: can be set up as desired and per tool
- NEW! Optional advanced joystick offering more controls (two sliders, five buttons each)
- Automatic air conditioning
- NEW! Optional heated mirrors are now also electrically adjustable from the cab

Incredibly Low Sound Levels, Less Fatigue

Increased cab pressure, preventing from dust entry, combined with the cab design contributes to reducing sound.

Outstanding Visibility: See the difference!

- All glass areas have been drastically increased
- Standard LED working lights and halogen front roading lights
- Standard LED dome light
- Standard rearview AND sideview wide angle cameras
- Wide angle mirrors for a better visibility even down to the ground
- Parallel intermittent (four speeds) wipers covering the whole windshield



NEW! Standard LED Lights for BOTH Cameras to See What's Going on Around, Day or Night

The rear camera is integrated into the counterweight for enhanced protection.

NEW! Split-Screen View of BOTH Cameras on the Same Monitor

The views from both cameras are displayed side by side on the additional wide color monitor for better visibility at first glance.

Large Color Machine Monitor

Easy to read and in local language, the high resolution LCD monitor will keep you aware of any important information.

“Quick Access” buttons allow a quick selection of favorite functions. The tool select function lets you preset up to ten different hydraulic attachments for quick tool changes.

Serviceability

When Uptime Counts

Convenient Access Built In

You can reach routine maintenance items like fuel and engine oil filters and fluid taps at ground level while fuel and DEF tank are accessible from the safety of the slip-resistant new service foldable step. Compartments feature wide composite service doors, designed to be more resistant to shocks, which all include gas struts to facilitate the opening.



A Smart Design for Any Temperature

The side-by-side coolers and axial fan design allows greater cooling performance. The system is completely separated from the engine compartment to reduce noise and heat, and all radiators are gathered in the same compartment while featuring easy-to-clean cores with a tilting device that requires no tool to unlock.

- The optional Cooling Protection Package includes a fine mesh for enhanced radiator protection and an engine air precleaner.
- The optional Waste Handling Package adds a reversing fan rotation function with adjustable intervals and a vibrating grill on the cooling hood. This vibration together with the reversed airflow direction will shake accumulated particles off the mesh.



A Fresh Idea

Ventilation inside the cab allows outside air to enter through a fresh air filter. The filter is located on the side of the cab to make it easy to reach, and it is protected by a lockable door that can be opened with the ignition key.



Lube and Fuel Features

An automatic lubrication system is a time-saving standard feature for greasing the whole uppercarriage. Greasing points for the undercarriage are kept to a minimum and grouped. The drive shaft extends greasing intervals from 500 hours to 1,000 hours and allows simultaneous greasing with the lower axle bearing. An electric refueling pump is also available. The hose is stored in a dedicated tray, for more cleanliness. Add in the electric lift pump removing the need to prime the system manually, the standard fuel and water separator and you get a machine that does the fastidious maintenance works for you.



Keep it simple.

Integrated Technologies

It Pays to Know



Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



Equipment Management – increase uptime and reduce operating costs.



Productivity – monitor production and manage job site efficiency.



Safety – enhance job site awareness to keep your people and equipment safe.

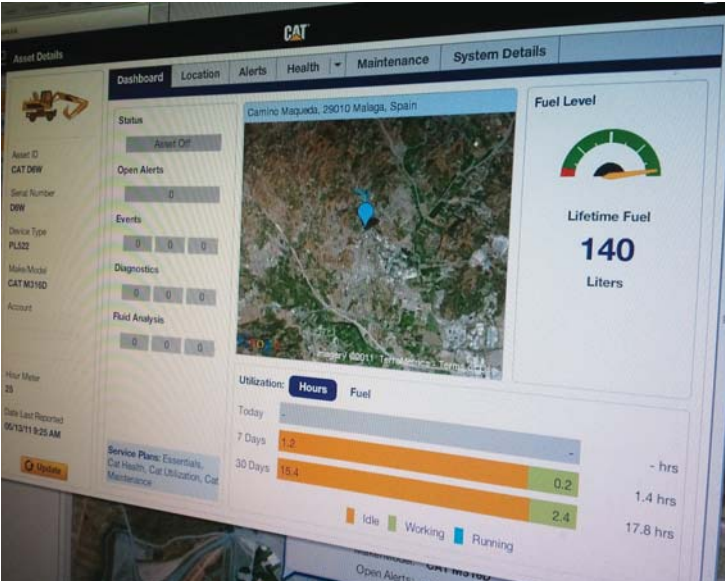
Featured Cat Connect technologies include the following:

Link

Link technologies provide wireless capability to machines to enable two-way transfer of information collected by on-board sensors, control modules, and other Cat Connect technologies.

Manage Your Machine Remotely

Cat Product Link is a system that is deeply integrated into the machine monitoring system to take the guesswork out of managing your equipment. The system tracks location, hours, fuel usage, productivity, idle time, and diagnostic codes and shares it with you through VisionLink® to help you maximize efficiency, improve productivity, and lower operating costs.



CAT® CONNECT



Attachments

Move More, Make More



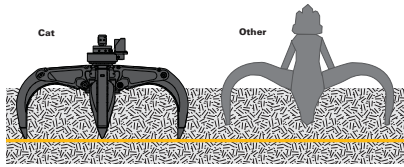
New! Optional 15 kW Cat Generator with Solid State Controller

If your attachment or application needs additional power for operation, the MH3022 can come equipped with an optional 15 kW solid state generator. Experience enhanced sorting ability through the proprietary solid state generator control. The genset is capable of producing enough power to operate up to a 1.4 m (4.6 ft) diameter magnet. The optional solid state genset would be placed in the upper frame for ease of maintenance without obstructing other machine components.

With the operator friendly material sorting control enables the machine operator to turn the magnet current on and off at quick intervals without initiating the actual “drop” or “reverse current” cycle of the magnet which completely and quickly cleans the material off of the magnet during normal production handling.

This proprietary generator system is designed, sold and serviced by Caterpillar and Cat dealers worldwide.





Reduced Damage and Downtime

Cat cylinders and hoses are located inside the grapple, protected against cutting and scoring from scrap impact. Four exposed connector lines to the machine are guarded – protecting them from damage.

Attachment Solutions for Industrial and Recycling Applications

When productivity, reliability and stability are important, Cat attachments are the perfect solution for the MH3022. Choose one for your Cat machine for maximum performance.

Productive and Perfectly Matched

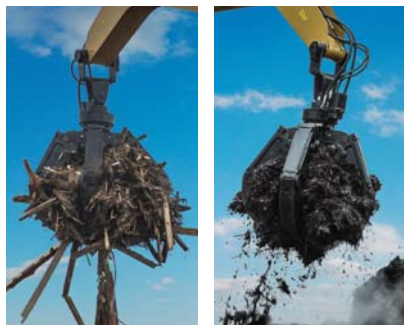
Loading and unloading is foundational to your productivity. Grapples are sized right for the MH3022. They are designed for maximum penetration into the pile. The full power of your machine is utilized to provide fast open/close times and powerful closing force. Full, 360° rotation systems allow precise placement. Together, a MH3022 and Cat grapple allow you to move volumes with minimal time and effort.

Built for Severe Material

Cat grapples are built to take on the material you move. Hydraulic components are protected from damage, yet easily accessed for routine maintenance. Areas that dig and penetrate are made of high quality, wear resistant material to keep them in working condition. Components that pivot and move are engineered to the latest standards for a long life. Cat grapples last for a positive impact to your bottom line.

Orange Peel Grapples

The perfect solution for scrap yards, recycling plants and transfer stations. These grapples are available with 4 or 5 tines, in capacities from 600 to 800 L (0.79 to 1.05 yd³). Several shell choices allow further customization of your grapple to the specific material you work with.



Get the Most from Your Machine

You can easily expand all the possibilities the MH3022 offers by utilizing a straight stick linkage and combining it with any of the variety of Cat attachments for excavators. In this case, a quick coupler will bring the ability to quickly change attachments. Ten hydraulic pump flow and pressure settings can be preset within the monitor, eliminating the need to adjust the hydraulics each time a tool is changed. Attachment changes have never been easier!

Contact your local Cat dealer to learn more about the specific grapple choices available in your region.

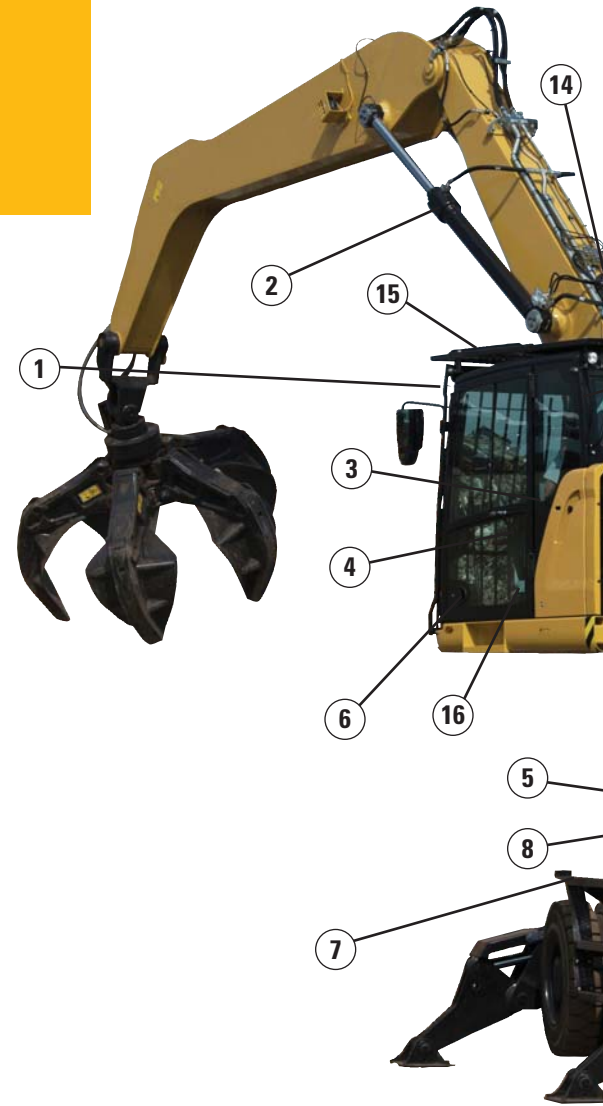
Safety

Your Safety Is NOT Optional

Embedded Features

Smart embedded devices help enforce safe behavior:

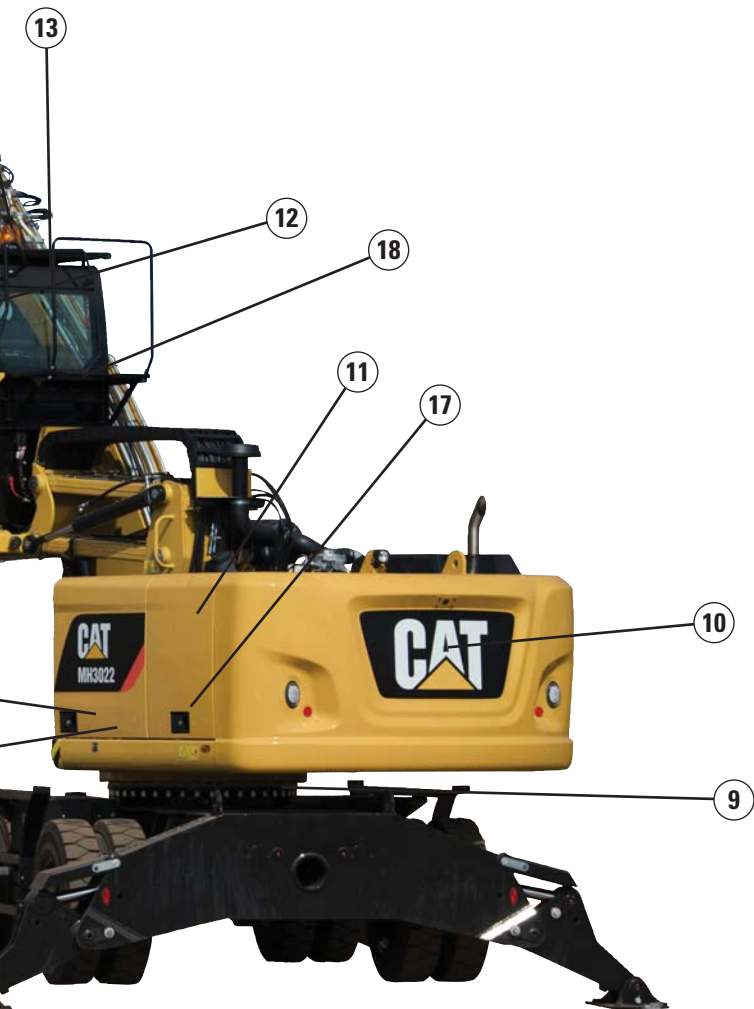
- Safety seat belt and warning indicators (monitor)
- Automatic swing lock
- Automatic brake and axle lock
- Safety lever, preventing exit when the implements are not locked out
- Emergency shut off switch and battery disconnect switch
- Travel alarm
- Lowering check valves
- NEW! Quick coupler control switch, ISO 13031 compliant



Cab Ingress

We bring a solution to allow you to safely climb into the cab:

- Three longer access steps, aligned with the cab entry
- Additional step integrated into the skirt, directly below the cab door
- Anti-skid plates on all walkways and steps reducing slipping hazards
- Tiltable console to make sure the way in and out is free of obstacles
- New! Optional Easy Cab Access Package featuring a rigid ladder mounted on the rear axle (right side) for straight access into the cab from the ground.



- 1) Laminated windshield and skylight window
- 2) Lowering check valves
- 3) Safety seat belt indicator
- 4) Safety lever
- 5) Emergency shut-off switch
- 6) Automatic brake and axle lock
- 7) Punched, anti-slippery walking surfaces
- 8) Battery disconnect switch
- 9) Swing and implement electronic lock
- 10) Travel alarm
- 11) All doors equipped with gas strut cylinders
- 12) Emergency hammer and exit
- 13) Sound proofing
- 14) Beacon available
- 15) FOPS cab and top/front guards compatibility
- 16) Safety lever to lower the cab, either from the ground or directly from the cab
- 17) Foldable service platform
- 18) Cab Advanced Pre-Filtration System (optional)

Safe and Quiet Cab

The cab provides you with a safe environment. It also contributes to your comfort with limited vibrations and low sound levels.

Great Views

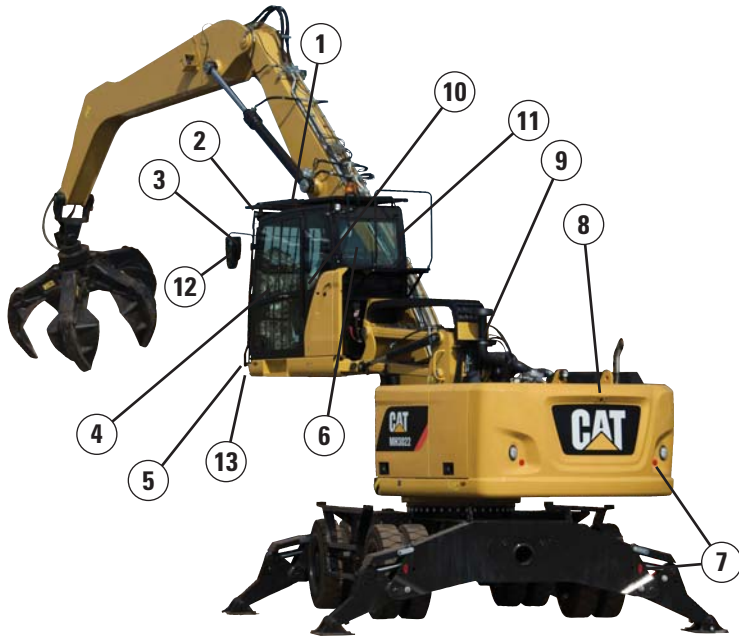
- Enlarged glass gives you excellent visibility to the front, top, rear, and sides, even to the right
- Standard rearview camera gives you a clear field of view behind the machine
- NEW! Monitor split-screen to easily check cameras rearview and sideview on the same display
- Standard sideview camera, to check nothing is hidden to you from the front right hand side to the rear of the machine
- Lenses of all the cameras are wide angle and heated
- All mirrors are wide angle and allow view not only around the machine but also to the ground

New! Safety Options for Specific Applications

- **Impact Resistant One-Piece Windshield and skylight**, 10 mm (0.4") thick, fulfills EN356 P5A standards.
- **High Impact Resistant fixed Windshield (two-parts) and skylight**, 26 mm (1") thick, fulfills EN356 P8B standards.
- **Advanced Cab Pre-Filtration Package** – A cab pre-filtration package reduces dust entry and air contamination. It includes:
 - an integrated air precleaner, which also extends filters life
 - a fresh air filtration system with H13 and ABEK1 Hg filters against odor and gas
 - a recirculation filtration system, with a H13 filter

Unmatched Visibility

Make Sure Nothing Is Hidden to You



Visibility all around is critical, especially for machines working and driving on industrial job sites.

- 1) Increased skylight and windshield glass area
- 2) Standard LED lights for all working lights
- 3) Optional electrically adjustable and heated mirrors
- 4) Great left hand side visibility with all glass door
- 5) Halogen front roading lights
- 6) Wide rear window
- 7) Red reflectors, on counterweight and rear blade/outriggers
- 8) Standard wide angle rearview camera with LED light
- 9) Standard wide angle sideview camera with LED light
- 10) Split-screen display of both cameras on the same monitor
- 11) Large right hand side window
- 12) Mirrors, wide angle, with additional lower mirror for ground visibility
- 13) High visibility – 2400 mm (94.5 in) elevated cab

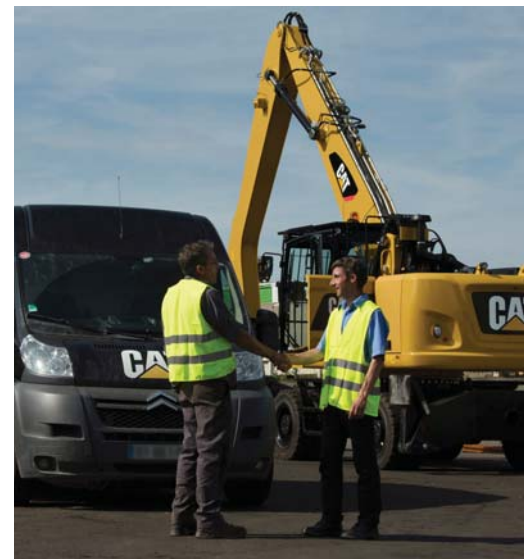
Complete Customer Care

Your Cat Dealer Will Support You Like No Other

Support You Can Count On

From helping you to choose the right machine to knowledgeable on-going support, Cat dealers provide the best-in-sales and services.

- **Best long-term investment** with financing options and services
- **Productive operation** with training programs
- **Preventive maintenance** and guaranteed maintenance contracts
- **Uptime**, with best-in-class parts availability
- **Repair, rebuild, or replace?** Your dealer can help evaluate the best option.



MH3022 Wheel Material Handler Specifications

Engine

Engine Model	Cat C7.1 ACERT ⁽¹⁾	
Ratings	1,550 rpm	
Engine Gross Power (Maximum)		
ISO 14396	129.4 kW	174 hp
ISO 14396 (metric)	176 hp	
Net Power (Rated) ⁽²⁾		
ISO 9249/SAE J1349	126 kW	169 hp
ISO 9249/SAE J1349 (metric)	171 hp	
80/1269/EEC	126 kW	169 hp
Net Power (Maximum)		
ISO 9249/SAE J1349	126 kW	169 hp
ISO 9249/SAE J1349 (metric)	171 hp	
80/1269/EEC	126 kW	169 hp
Bore	105 mm	4.1 in
Stroke	135 mm	5.3 in
Displacement	7.01 L	427.8 in ³
Maximum Torque at 1,400 rpm	830 N·m	612 lbf-ft
Number of Cylinders	6	

⁽¹⁾ Meets Tier 4 Final/Stage IV emission standards.

⁽²⁾ Rated speed 1,550 rpm. Constant power from 1,500-1,550 rpm.

- Net power advertised is the power available at the flywheel when engine is equipped with air cleaner, CEM exhaust gas aftertreatment, alternator, and cooling fan running at intermediate speed.
- No derating required up to 3000 m (9,842 ft) altitude. Automatic derating occurs after 3000 m (9,842 ft).

Transmission

Forward/Reverse		
1st Gear	10.0 kph	6.2 mph
2nd Gear	25.0 kph	15.5 mph
Creeper Speed		
1st Gear	3.0 kph	1.9 mph
2nd Gear	10.0 kph	6.2 mph
Drawbar Pull	127 kN	28,551 lbf
Maximum Gradeability (at 23 500 kg/51,808 lb)	65%	

Swing Mechanism

Maximum Swing Speed	8.1 rpm	
Maximum Swing Torque	54 kN·m	39,828 lbf-ft

Undercarriage

Axle Ground Clearance*	325 mm	12.8 in
Maximum Steering Angle	35.0°	
Oscillation Axle Angle	±5.0°	
Minimum Turning Radius**		
Outside of Tire	6800 mm	22.3 ft
End of VA Boom	7600 mm	24.9 ft
End of One-Piece Boom	9000 mm	29.5 ft

*Dimension for standard and MH undercarriage. For machines fitted with 11.00-20 pneumatic tires, add 35 mm (1.4 in).

**Boom and stick in travel position.

Service Refill Capacities

Fuel Tank (total capacity)	330 L	87 gal
Diesel Exhaust Fluid Tank	34.5 L	9.1 gal
Cooling System	46.9 L	12.4 gal
Engine Crankcase	18.5 L	4.9 gal
Rear Axle Housing (differential)	14 L	3.7 gal
Front Steering Axle (differential)	10.5 L	2.8 gal
Final Drive	2.5 L	0.7 gal
Powershift Transmission	2.5 L	0.7 gal

Hydraulic System

Tank Capacity	153 L	40.4 gal
System	345 L	91.1 gal

Hydraulic System: Maximum Pressure

Implement Circuit		
Normal	350 bar	5,076 psi
Heavy Lift	370 bar	5,366 psi
Travel Circuit	350 bar	5,076 psi
Auxiliary Circuit		
High Pressure	350 bar	5,076 psi
Medium Pressure	210 bar	3,046 psi
Swing Mechanism	310 bar	4,496 psi

Hydraulic System: Maximum Flow

Implement/Travel Circuit	288 L/min	76 gal/min
Auxiliary Circuit		
High Pressure	250 L/min	66 gal/min
Medium Pressure	49 L/min	12.9 gal/min
Swing Mechanism	108 L/min	28.5 gal/min

MH3022 Wheel Material Handler Specifications

Weights

Operating Weights*	21 655- 23 670 kg	47,741- 52,183 lb
Long MH Boom – 6.4 m (21'0")		
MH Undercarriage, Straight Stick	23 670 kg	52,183 lb
MH Undercarriage, Drop Nose Stick	23 250 kg	51,257 lb
MH Narrow Undercarriage, Drop Nose	22 340 kg	49,251 lb
Standard Undercarriage**, Straight Stick	22 730 kg	50,111 lb
Short MH Boom – 5.35 m (17'7")		
Narrow Undercarriage, Straight Stick	22 540 kg	49,692 lb
One-Piece Boom		
Standard Undercarriage**, Industrial Stick	21 650 kg	47,730 lb
VA Boom		
Standard Undercarriage**, 2800 mm (9'2") Stick	22 630 kg	49,890 lb
Sticks***		
Digging – 2800 mm (9'2")	925 kg	2,039 lb
Straight – 4200 mm (13'9")	1315 kg	2,899 lb
Drop Nose – 4900 mm (16'1")	885 kg	1,951 lb
Industrial – 3300 mm (10'10")	515 kg	1,135 lb
MH Push Blade	675 kg	1,488 lb
Dozer Blade	850 kg	1,874 lb
Solid Tires (delta vs. standard tires)	950 kg	2,094 lb
Counterweights		
Standard	3700 kg	8,157 lb
Optional	4200 kg	9,260 lb

*Operating weight includes solid tires, 3700 kg (8,157 lb) counterweight, full fuel tank, operator, four outriggers undercarriage, and an attachment (1400 kg/3,087 lb). Weight varies depending on configuration.

**Standard undercarriage with 2 sets of outriggers and dual pneumatic tires.

***Includes cylinder, bucket linkage, pins and standard hydraulic lines.

Tires

10.00-20 (dual pneumatic)*

11.00-20 (dual pneumatic)**

10.00-20 (dual solid rubber)

*Not compatible with MH undercarriage.

**Not compatible with MH Narrow undercarriage.

Push Blade

Blade Type	Radial	
Blade Height	920 mm	3.0 ft
Width	2990 mm	9.8 ft

Emissions and Safety

Engine Emissions	Tier 4 Final/Stage IV	
Diesel Exhaust Fluid	Must meet ISO 22241	
Fluids (optional)		
Cat Bio HYDO Advanced	Readily biodegradable	
Biodiesel up to B20	Meets EN 14214 or ASTM D6751 with EN590 or ASTM D975 standard mineral diesel fuels	

Vibration Levels

Maximum Hand/Arm		
ISO 5349:2001	<2.5 m/s ²	<8.2 ft/s ²
Maximum Whole Body		
ISO/TR 25398:2006	<0.5 m/s ²	<1.6 ft/s ²

Seat Transmissibility Factor

ISO 7096:2000-spectral class EM5	<0.7	
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Standards

Operator Protective Structure

Top/Front Guards	FOPS (Falling Object Protective Structure) meets FOPS criteria ISO 10262:1998 and SAE J1356:2008	
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Cab/Sound Levels

Meets appropriate standards as listed below	
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Sound Performance

Operator Sound

2000/14/EC	71 dB(A)
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Spectator Sound

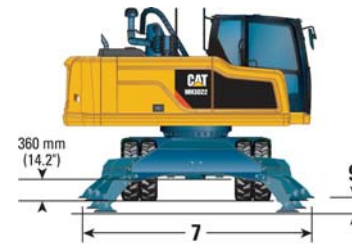
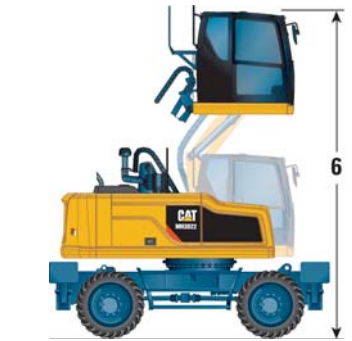
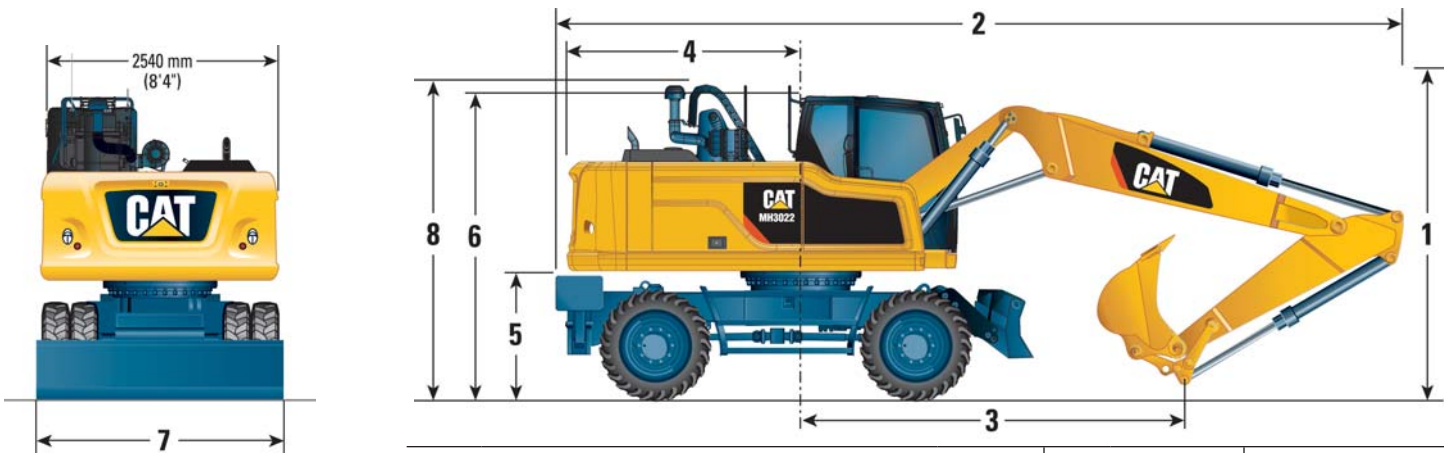
2000/14/EC	99 dB(A)
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- Operator Sound – The operator sound level is measured according to the procedures specified in 2000/14/EC, for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed.
- Exterior Sound – The labeled spectator sound power level is measured according to the test procedures and conditions specified in 2000/14/EC.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained for doors/windows open) for extended periods or in noisy environment(s).

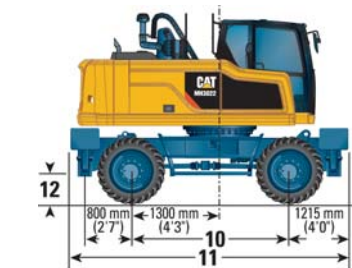
MH3022 Wheel Material Handler Specifications

Dimensions – With Standard Undercarriage, Two Sets of Outriggers

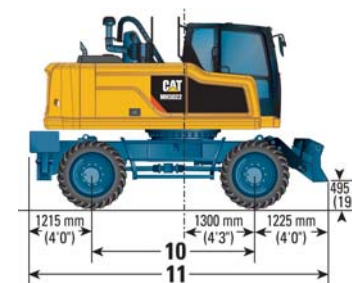
All dimensions are approximate.



Undercarriage with 2 sets of outriggers



Undercarriage with 1 set of outriggers and dozer blade



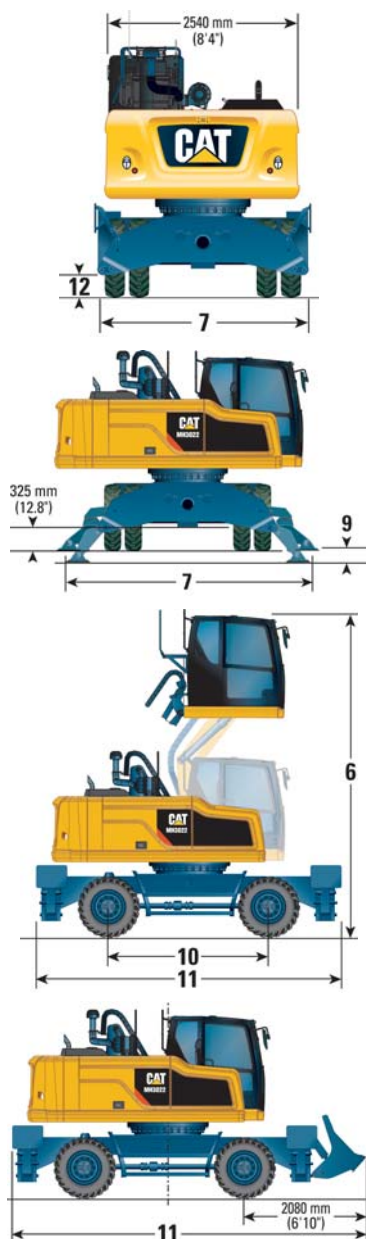
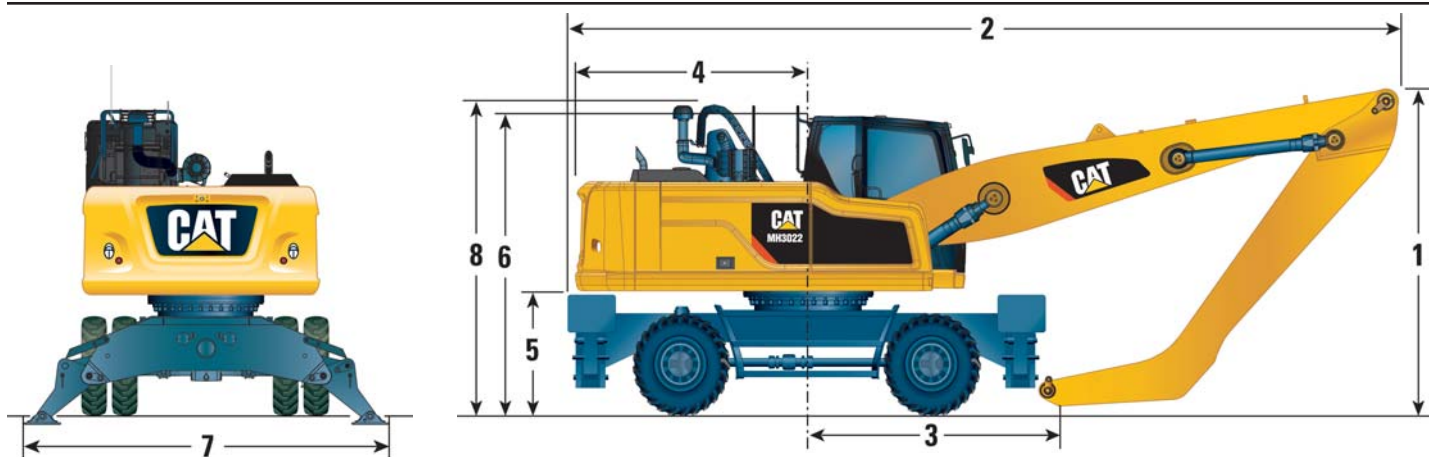
Stick Length	mm (ft/in)	VA Boom			One-Piece Boom		
		2500 (8'2")	2800 (9'2")	3300 (10'10")	2500 (8'2")	2800 (9'2")	3300 (10'10")
1 Shipping Height with Falling Object Guard (highest point between boom and cab)	mm (ft/in)	3375 (11'1")			3375 (11'1")		
2 Shipping Length	mm (ft/in)	8915 (29'3")	8890 (29'2")	8940 (29'4")	9025 (29'7")	9025 (29'7")	9040 (29'8")
3 Support Point	mm (ft/in)	3625 (11'11")	3485 (11'5")	3270 (10'9")	3480 (11'5")	3300 (10'10")	3070 (10'1")
4 Tail Swing Radius	mm (ft/in)	2570 (8'5")					
5 Counterweight Clearance	mm (ft/in)	1310 (4'3")					
6 Cab Height with Hydraulic Cab Riser							
Cab Lowered – No Falling Object Guard	mm (ft/in)	3350 (11'0")					
Cab Lowered – with Falling Object Guard	mm (ft/in)	3375 (11'1")					
Cab Raised – with Falling Object Guard	mm (ft/in)	5775 (18'11")					
Cab Raised – without Falling Object Guard	mm (ft/in)	5645 (18'6")					
7 Overall Machine Width							
Width with Outriggers on Ground	mm (ft/in)	3930 (12'11")					
Width with Outriggers Up	mm (ft/in)	2750 (9'0")					
Width with Blade	mm (ft/in)	2750 (9'0")					
8 Height of Tray Group Flex	mm (ft/in)	3360 (11'0")					
9 Maximum Outriggers Depth	mm (in)	120 (4.7")					
10 Wheel Base	mm (ft/in)	2750 (9'0")					
11 Undercarriage Length							
With 2 Sets of Outriggers Raised	mm (ft/in)	5040 (16'6")					
With 1 Set of Outriggers and Dozer Blade Raised	mm (ft/in)	5190 (17'0")					
12 Undercarriage Clearance	mm (ft/in)	325 (12'8")					

Note: Values with 11.00-20 pneumatic tires. For machines fitted with solid tires all vertical dimensions have to be reduced by 35 mm (1.4"). For dimension 9 add 35 mm (1.4").

MH3022 Wheel Material Handler Specifications

Dimensions – With MH and MH Narrow Undercarriage

All dimensions are approximate.



		MH Undercarriage		MH Narrow UC*	
		Long MH Boom	Drop Nose	Short MH Boom	Drop Nose
Boom Length	mm (ft/in)	6400 (21'0")		5350 (17'7")	
Stick Type		Straight	Drop Nose	Straight	Drop Nose
Stick Length	mm (ft/in)	4200 (13'9")	4900 (16'1")	4200 (13'9")	4900 (16'1")
1 Shipping Height with Falling Object Guard (highest point between boom and cab)	mm (ft/in)	3340 (10'11")	3620 (11'11")	3340 (10'11")	4535 (14'11")
2 Shipping Length	mm (ft/in)	9420 (30'11")	9280 (30'5")	8310 (27'3")	7885 (25'10")
3 Support Point	mm (ft/in)	3230 (10'7")	2760 (9'7")	2190 (7'2")	2180 (7'2")
4 Tail Swing Radius	mm (ft/in)	2570 (8'5")			
5 Counterweight Clearance	mm (ft/in)	1275 (4'2")			
6 Cab Height with Hydraulic Cab Riser					
Cab Lowered – No Falling Object Guard	mm (ft/in)	3315 (10'11")			
Cab Lowered – with Falling Object Guard	mm (ft/in)	3340 (10'11")			
Cab Raised – with Falling Object Guard	mm (ft/in)	5740 (18'10")			
Cab Raised – No Falling Object Guard	mm (ft/in)	5610 (18'5")			
7 Overall Machine Width					
Width with Outriggers on Ground	mm (ft/in)	4360 (14'4")		3680 (12'1")	
Width with Outriggers Up	mm (ft/in)	2990 (9'6")		2550 (8'4")	
Width with the Special Front Push Blade	mm (ft/in)	2990 (9'6")		NA	
8 Height of Tray Group Flex	mm (ft/in)	3325 (10'11")			
9 Maximum Outriggers Depth	mm (in)	90 (3.5")		120 (4.7")	
10 Wheel Base	mm (ft/in)	2750 (9'0")		2600 (8'6")	
11 Undercarriage Length	mm (ft/in)	5250 (17'3")		4900 (16'1")	
With MH Undercarriage Front Push Blade	mm (ft/in)	6080 (19'11")		NA	
12 Undercarriage Clearance	mm (in)	245 (10")		295 (12")	

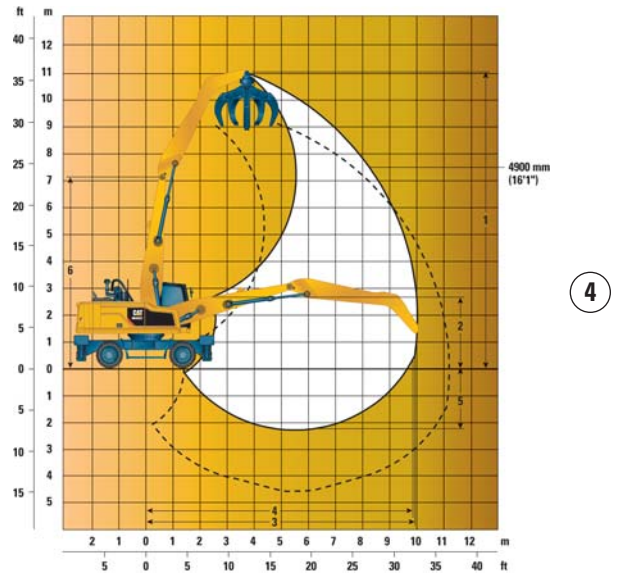
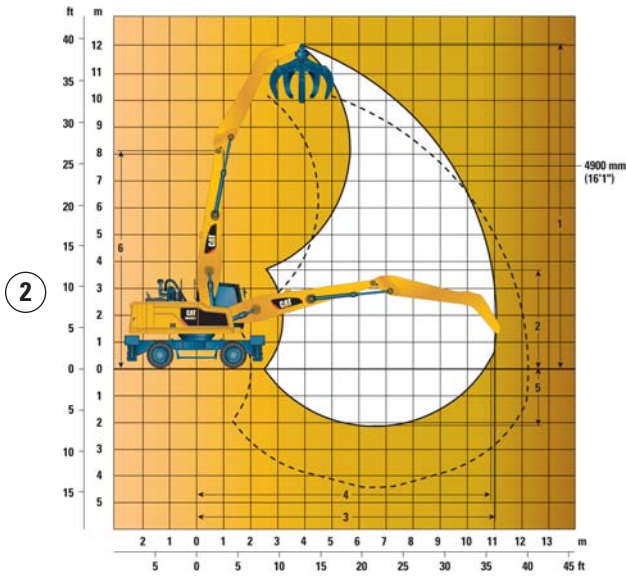
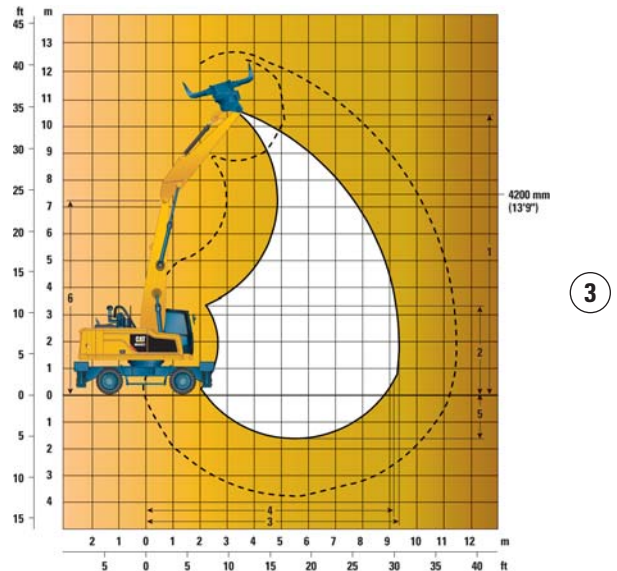
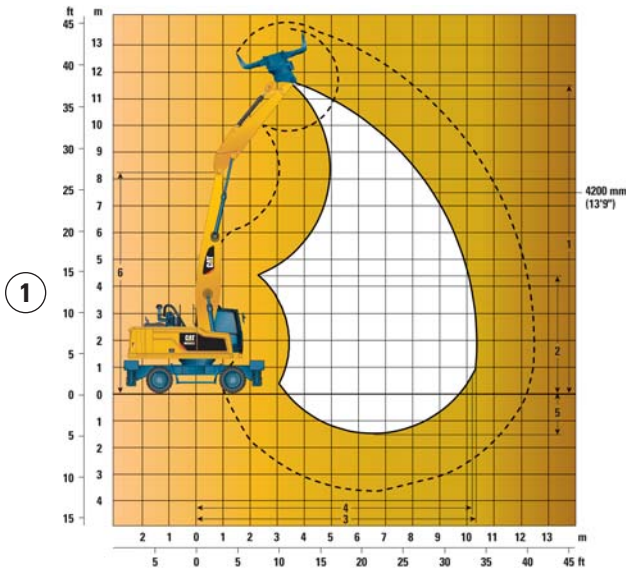
*Dimensions with MH Narrow undercarriage, outriggers front and rear, and without attachment.

When the shipping height is over 4 m (13 ft), the stick must be removed for transportation.

Note: Values are with 10.00-20 pneumatic or with solid tires. For machine fitted with 11.00-20 pneumatic tires and MH Undercarriage all vertical dimensions have to be increased by 35 mm (1.4"). For dimension 9 reduce by 35 mm (1.4").

MH3022 Wheel Material Handler Specifications

Working Ranges



		MH3022			
		①	②	③	④
Boom Type		MH Boom/6400 mm (21'0")		Short MH Boom/5350 mm (17'7")	
Stick Length		4200 mm (13'9")	4900 mm (16'1")	4200 mm (13'9")	4900 mm (16'1")
Stick Type		Straight	Drop Nose	Straight	Drop Nose
1 Maximum Height	mm (ft/in)	11 520 (37'9")	12 065 (39'7")	10 445 (34'3")	11 020 (36'2")
2 Minimum Dump Height	mm (ft/in)	4330 (14'2")	3680 (12'1")	3255 (10'8")	2635 (8'8")
3 Maximum Reach	mm (ft/in)	10 345 (33'11")	11 005 (36'1")	9325 (30'7")	9990 (32'9")
4 Maximum Reach at Ground Level	mm (ft/in)	10 175 (33'5")	10 845 (35'7")	9145 (30'0")	9815 (32'2")
5 Maximum Depth	mm (ft/in)	1485 (4'10")	2185 (7'2")	1655 (5'5")	2325 (7'7")
6 Boom Pin Height	mm (ft/in)	8235 (27'0")		7160 (23'6")	

All dimensions refer to sticknose pin, with solid tires.





These dimensions are independent from the undercarriage type (whether it is MH or MH Narrow undercarriage).

MH3022 Wheel Material Handler Specifications

Attachment Offering Guide with Straight Sticks*

Boom Length		One-Piece Boom				MH Boom – 6.4 m (21'0")		MH Boom – 5.35 m (17'7")	
		3700 kg (8,157 lb)		4200 kg (9,260 lb)		3700 kg (8,157 lb)	4200 kg (9,260 lb)	3700 kg (8,157 lb)	4200 kg (9,260 lb)
Counterweight		(1)		(1)		(1)	(1)	(1)	(1)
Undercarriage/Outriggers		(1)		(1)		(1)	(1)	(1)	(1)
Stick Length		2500 mm (8'2")	2800 mm (9'2")	2500 mm (8'2")	2800 mm (9'2")	4200 mm (13'9")	4200 mm (13'9")	4200 mm (13'9")	4200 mm (13'9")
		Stick Type	Straight	Straight	Straight	Straight	Straight	Straight	Straight
Hydraulic Hammer	H115Es/H120Es								
	H130Es								
Multi-Processor	MP318 CC, D, U, S Jaw								
	MP318 P Jaw								
Pulverizer	P215								
Sorting Grapple	G315B								
Scrap Shear	S320B								
	S325B								
Compactor Plate	CVP75								
Pin Grabber Coupler	Cat PG	This coupler is available for the MH3022 (with straight stick and linkage).							

(1) MH undercarriage with 2 sets outriggers

	Attachment is a match
	Pin-on only
	Boom mount
	Not recommended

*Offerings not available in all areas. Matches are dependent on machine configurations. Consult your Cat dealer to determine what is offered in your area and for proper attachment match.

Attachment Offering Guide with Drop Nose Sticks*

Boom Length		MH Boom – 6.4 m (21'0")		MH Boom – 5.35 m (17'7")	
		3700 kg (8,157 lb)		4200 kg (9,260 lb)	
Counterweight		(1)		(1)	
Undercarriage/Outriggers		(1)		(1)	
Stick Length		4900 mm (16'1")	4900 mm (16'1")	4900 mm (16'1")	4900 mm (16'1")
		MH Stick (drop nose)		MH Stick (drop nose)	
Orange Peel Grapple (4 or 5 tines)	GSH15B 600 L (0.79 yd ³)/800 L (1.05 yd ³)				

(1) MH undercarriage with 2 sets outriggers


 Maximum density 1.8 t/m³ (3,000 lb/yd³) (standard material)


*Offerings not available in all areas. Matches are dependent on machine configurations. Consult your Cat dealer to determine what is offered in your area and for proper attachment match.


MH3022 Wheel Material Handler Specifications

Lift Capacities


All values are in kg, without attachment, with counterweight (4200 kg), heavy lift on.

 Load point height

 Load over front

 Load over rear

 Load over side

 Load at maximum reach (sticknose/bucket pin)

Undercarriage














MH (2.99 m) or MH Narrow (2.55 m)

Boom

6.4 m MH

Stick

4.9 m MH

Load point height	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm			10 500 mm						mm						
																													
10 500 mm	SA – 2 sets stabilizers up							6250	6250	4750														5200	5200	3950	6700		
	SA – 2 sets stabilizers down							*6500	*6500	*6500														*5250	*5250	*5250			
	Narrow – 2 sets stabilizers up							5650	5650	4250														4750	4750	3550			
	Narrow – 2 sets stabilizers down							*6450	*6450	*6450														*5300	*5300	*5300			
9000 mm	SA – 2 sets stabilizers up							6350	6350	4850	4450	4450	3400												3700	3700	2800	8320	
	SA – 2 sets stabilizers down							*7850	*7850	*7850	*6300	*6300	*6300												*4700	*4700	*4700		
	Narrow – 2 sets stabilizers up							5800	5800	4350	4050	4050	3000												3400	3400	2500		
	Narrow – 2 sets stabilizers down							*7850	*7850	7600	*6250	*6250	5300												*4700	*4700	4450		
7500 mm	SA – 2 sets stabilizers up							6350	6350	4850	4450	4450	3400	3300	3300	2500									3050	3050	2300	9420	
	SA – 2 sets stabilizers down							*8200	*8200	*8200	*7100	*7100	6900	*5500	*5500	5100									*4400	*4400	*4400		
	Narrow – 2 sets stabilizers up							5800	5800	4350	4050	4050	3050	3000	3000	2200									2750	2750	2050		
	Narrow – 2 sets stabilizers down							*8150	*8150	7600	*7100	*7100	5300	5450	5450	3950									*4400	*4400	3650		
6000 mm	SA – 2 sets stabilizers up							6250	6250	4750	4400	4400	3350	3300	3300	2500									2700	2700	2000	10 180	
	SA – 2 sets stabilizers down							*8400	*8400	*8400	*7200	*7200	6800	*6200	*6200	5100									*4300	*4300	4150		
	Narrow – 2 sets stabilizers up							5700	5700	4250	4000	4000	3000	3000	3000	2200									2400	2400	1750		
	Narrow – 2 sets stabilizers down							*8400	*8400	7500	*7200	*7200	5250	5450	5450	3900									*4300	*4300	3200		
4500 mm	SA – 2 sets stabilizers up				9450	9450	7000	6000	6000	4550	4300	4300	3250	3250	3250	2450	2500	2500	1850	2450	2450	1800				2450	2450	1800	10 680
	SA – 2 sets stabilizers down				*11 150	*11 150	*11 150	*8900	*8900	*8900	*7350	*7350	6700	6200	6200	5000	4850	4850	3950	*4300	*4300	3850				*4300	*4300	3850	
	Narrow – 2 sets stabilizers up				8550	8550	6250	5450	5450	4050	3900	3900	2850	2900	2150	2250	2250	1650	2200	2200	1600				2200	2200	1600		
	Narrow – 2 sets stabilizers down				*11 150	*11 150	*11 150	*8850	*8850	7250	7150	7150	5100	5350	5350	3850	4200	4200	3000	4100	4100	2950				4100	4100	2950	
3000 mm	SA – 2 sets stabilizers up	17 550	17 550	11 900	8800	8800	6450	5700	5700	4250	4100	4100	3100	3150	3150	2350	2500	2500	1850	2350	2350	1700				2350	2350	1700	10 940
	SA – 2 sets stabilizers down	*18 550	*18 550	*18 550	*12 350	*12 350	*12 350	*9350	*9350	9250	*7550	*7550	6500	6050	6050	4950	4800	4800	3900	*4400	*4400	3650				*4400	*4400	3650	
	Narrow – 2 sets stabilizers up	15 550	15 550	10 400	7950	7950	5700	5150	5150	3750	3700	3700	2700	2850	2850	2050	2250	2250	1600	2100	2100	1500				2100	2100	1500	
	Narrow – 2 sets stabilizers down	*18 500	*18 500	*18 500	*12 350	*12 350	11 000	*9350	*9350	6950	7000	7000	4950	5250	5250	3750	4150	4150	3000	3900	3900	2800				3900	3900	2800	
1500 mm	SA – 2 sets stabilizers up				8150	8150	5850	5400	5400	3950	3950	3950	2900	3050	3050	2250	2450	2450	1800	2300	2300	1650				2300	2300	1650	11 000
	SA – 2 sets stabilizers down				*13 000	*13 000	*13 000	*9550	*9550	8850	*7500	*7500	6300	5950	5950	4800	*4700	*4700	3850	*4100	*4100	3600				*4100	*4100	3600	
	Narrow – 2 sets stabilizers up				7300	7300	5100	4850	4850	3500	3550	3550	2550	2750	1950	2200	2200	1550	2050	2050	1450				2050	2050	1450		
	Narrow – 2 sets stabilizers down				*13 000	*13 000	10 250	*9550	*9550	6600	6800	6800	4750	5150	5150	3650	4100	4100	2950	3850	3850	2750				3850	3850	2750	
0 mm	SA – 2 sets stabilizers up	*3500	*3500	*3500	7700	7700	5400	5150	5150	3700	3800	3800	2800	2950	2950	2150	2400	2400	1750										
	SA – 2 sets stabilizers down	*3500	*3500	*3500	*12 200	*12 200	*12 200	*9150	*9150	8600	*7150	*7150	6150	*5550	*5550	4750	*4050	*4050	3800										
	Narrow – 2 sets stabilizers up	*3500	*3500	*3500	6850	6850	4700	4600	4600	3250	3400	3400	2400	2650	2650	1900	2150	2150	1500										
	Narrow – 2 sets stabilizers down	*3500	*3500	*3500	*12 350	*12 350	9750	*9200	*9200	6300	6600	6600	4600	5050	5050	3600	*4050	*4050	2900										
-1500 mm	SA – 2 sets stabilizers up				7450	7450	5200	5000	5000	3600	3700	3700	2700	2900	2900	2100													
	SA – 2 sets stabilizers down				*9600	*9600	*9600	*8000	*8000	*8000	*6200	*6200	6050	*4650	*4650	*4650													
	Narrow – 2 sets stabilizers up				6650	6650	4500	4450	4450	3100	3300	3300	2350	2600	2600	1850													
	Narrow – 2 sets stabilizers down				*9600	*9600	9500	*8000	*8000	6150	*6250	*6250	4500	*4700	*4700	3550													

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.


Always refer to the appropriate Operation and Maintenance Manual for specific product information.


MH3022 Wheel Material Handler Specifications


Lift Capacities


All values are in kg, bucket cylinder and linkage installed, without attachment, with counterweight (4200 kg), heavy lift on.

 Load point height

 Load over front

 Load over rear

 Load over side

 Load at maximum reach (sticknose/bucket pin)

Undercarriage













MH (2.99 m) or MH Narrow (2.55 m)

Boom

6.4 m MH

Stick

4.2 m Straight Stick

Load point height	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm			Load at maximum reach (sticknose/bucket pin)			mm
																				
9000 mm	SA – 2 sets stabilizers up							5900	5900	4400							4050	4050	3000	7420
	SA – 2 sets stabilizers down							*8100	*8100	*8100							*5300	*5300	*5300	
	Narrow – 2 sets stabilizers up							5350	5350	3900							3700	3700	2650	
	Narrow – 2 sets stabilizers down							*8050	*8050	7150							*5300	*5300	4950	
7500 mm	SA – 2 sets stabilizers up							5900	5900	4400	4050	4050	3000				3150	3150	2250	8640
	SA – 2 sets stabilizers down							*8250	*8250	*8250	*7000	*7000	6450				*4900	*4900	*4900	
	Narrow – 2 sets stabilizers up							5350	5350	3950	3650	3650	2650				2800	2800	2000	
	Narrow – 2 sets stabilizers down							*8250	*8250	7150	6950	6950	4900				*4900	*4900	3800	
6000 mm	SA – 2 sets stabilizers up				9350	9350	6900	5800	5800	4300	4000	4000	2950	2900	2100	2650	2650	1900	9460	
	SA – 2 sets stabilizers down				*10 600	*10 600	*10 600	*8500	*8500	*8500	*7050	*7050	6400	5850	5850	4700	*4750	*4750		4300
	Narrow – 2 sets stabilizers up				8450	8450	6100	5250	5250	3800	3600	3600	2600	2600	1800	2350	2350	1650		
	Narrow – 2 sets stabilizers down				*10 600	*10 600	*10 600	*8450	*8450	7050	6900	6900	4850	5050	5050	3550	4600	4600		3250
4500 mm	SA – 2 sets stabilizers up	*14 500	*14 500	12 500	8850	8850	6450	5550	5550	4100	3900	3900	2850	2850	2050	2350	2350	1650	10 000	
	SA – 2 sets stabilizers down	*14 500	*14 500	*14 500	*11 500	*11 500	*11 500	*8850	*8850	*8850	*7150	*7150	6250	5800	5800	4650	*4750	*4750		3900
	Narrow – 2 sets stabilizers up	*14 250	*14 250	10 950	8000	8000	5700	5000	5000	3600	3500	3500	2500	2550	2550	1750	2100	2100		1400
	Narrow – 2 sets stabilizers down	*14 250	*14 250	*14 250	*11 500	*11 500	11 100	*8850	*8850	6800	6750	6750	4700	5000	5000	3500	4200	4200		2900
3000 mm	SA – 2 sets stabilizers up				8200	8200	5850	5250	5250	3800	3700	3700	2700	2800	2000	2200	2200	1550	10 280	
	SA – 2 sets stabilizers down				*12 450	*12 450	*12 450	*9200	*9200	8750	*7200	*7200	6100	5700	5700	4550	*4500	*4500		3700
	Narrow – 2 sets stabilizers up				7350	7350	5100	4700	4700	3350	3350	2350	2450	2450	1700	1950	1950	1300		
	Narrow – 2 sets stabilizers down				*12 400	*12 400	10 350	*9150	*9150	6450	6600	6600	4550	4900	4900	3400	3950	3950		2750
1500 mm	SA – 2 sets stabilizers up				7550	7550	5300	4950	4950	3550	3550	3550	2550	2700	2700	1900	2150	2150	1500	10 340
	SA – 2 sets stabilizers down				*12 450	*12 450	*12 450	*9100	*9100	8400	*7000	*7000	5900	*5450	*5450	4450	*3950	*3950	3600	
	Narrow – 2 sets stabilizers up				6700	6700	4550	4400	4400	3050	3150	3150	2200	2400	2400	1600	1900	1900	1250	
	Narrow – 2 sets stabilizers down				*12 500	*12 500	9650	*9100	*9100	6150	6400	6400	4400	4800	4800	3300	3900	3900	2650	
0 mm	SA – 2 sets stabilizers up				7200	7200	4950	4750	4750	3350	3450	3450	2400	2650	2650	1850				
	SA – 2 sets stabilizers down				*9400	*9400	*9400	*8350	*8350	8150	*6400	*6400	5800	*4800	*4800	4400				
	Narrow – 2 sets stabilizers up				6350	6350	4250	4200	4200	2850	3050	3050	2050	2350	2350	1550				
	Narrow – 2 sets stabilizers down				*9450	*9450	9250	*8400	*8400	5900	6250	6250	4250	4750	4750	3250				

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

MH3022 Wheel Material Handler Specifications

Lift Capacities

All values are in lb, bucket cylinder and linkage installed, without attachment, with counterweight (9,260 lb), heavy lift on.



Undercarriage

MH (9'9") or MH Narrow (8'4")

Boom

21'0" MH

Stick

13'9" Straight Stick

T	Undercarriage configuration	10 ft			15 ft			20 ft			25 ft			30 ft			Stick			ft			
		Load point height	Load over front	Load over rear	Load over front	Load over rear	Load over side	Load point height	Load over front	Load over rear	Load over front	Load over rear	Load over side	Load point height	Load over front	Load over rear	Load over front	Load over rear	Load over side				
30 ft	SA – 2 sets stabilizers up							12,500	12,500	9,300							9,100	9,100	6,700	23.85			
	SA – 2 sets stabilizers down							*17,100	*17,100	*17,100							*11,800	*11,800	*11,800				
	Narrow – 2 sets stabilizers up							11,300	11,300	8,300							8,300	8,300	6,000				
	Narrow – 2 sets stabilizers down							*17,100	*17,100	15,100							*11,800	*11,800	11,100				
25 ft	SA – 2 sets stabilizers up							12,600	12,600	9,400	8,600	8,600	6,300				6,900	6,900	5,000	28.08			
	SA – 2 sets stabilizers down							*18,000	*18,000	*18,000	*15,200	*15,200	13,700				*10,900	*10,900	*10,900				
	Narrow – 2 sets stabilizers up							11,400	11,400	8,300	7,700	7,700	5,500				6,200	6,200	4,400				
	Narrow – 2 sets stabilizers down							*18,000	*18,000	15,200	14,800	14,800	10,400				*10,900	*10,900	8,400				
20 ft	SA – 2 sets stabilizers up							19,900	19,900	14,700	12,300	12,300	9,200	8,500	8,500	6,200	6,100	6,100	4,400	5,800	5,800	4,100	30.91
	SA – 2 sets stabilizers down							*23,000	*23,000	*23,000	*18,400	*18,400	*18,400	*15,300	*15,300	13,600	12,400	12,400	10,000	*10,500	*10,500	9,500	
	Narrow – 2 sets stabilizers up							18,000	18,000	13,000	11,100	11,100	8,100	7,600	7,600	5,500	5,500	5,500	3,800	5,200	5,200	3,600	
	Narrow – 2 sets stabilizers down							*23,000	*23,000	*23,000	*18,400	*18,400	15,000	14,700	14,700	10,300	10,700	10,700	7,500	10,200	10,200	7,100	
15 ft	SA – 2 sets stabilizers up	*31,000	*31,000	26,700	18,900	18,900	13,700	11,800	11,800	8,700	8,200	8,200	6,000	6,100	6,100	4,300	5,200	5,200	3,600	5,200	5,200	3,600	32.74
	SA – 2 sets stabilizers down	*31,000	*31,000	*31,000	*24,900	*24,900	*24,900	*19,200	*19,200	*19,200	*15,500	*15,500	13,300	12,300	12,300	9,900	*10,500	*10,500	*10,500	*10,500	*10,500	9,500	
	Narrow – 2 sets stabilizers up	*30,600	*30,600	23,400	17,000	17,000	12,100	10,700	10,700	7,700	7,400	7,400	5,200	5,400	5,400	3,700	4,600	4,600	3,100	4,600	4,600	3,100	
	Narrow – 2 sets stabilizers down	*30,600	*30,600	*30,600	*24,900	*24,900	23,600	*19,200	*19,200	14,500	14,400	14,400	10,000	10,600	10,600	7,400	9,100	9,100	6,300	9,100	9,100	6,300	
10 ft	SA – 2 sets stabilizers up				17,400	17,400	12,400	11,200	11,200	8,100	7,900	7,900	5,700	5,900	5,900	4,200	4,800	4,800	3,400	4,800	4,800	3,400	33.73
	SA – 2 sets stabilizers down				*26,900	*26,900	*26,900	*19,900	*19,900	18,600	*15,600	*15,600	13,000	12,100	12,100	9,700	*9,900	*9,900	8,000	*9,900	*9,900	8,000	
	Narrow – 2 sets stabilizers up				15,600	15,600	10,900	10,000	10,000	7,100	7,100	7,100	4,900	5,200	5,200	3,600	4,300	4,300	2,800	4,300	4,300	2,800	
	Narrow – 2 sets stabilizers down				*26,900	*26,900	22,000	*19,900	*19,900	13,800	14,000	14,000	9,700	10,400	10,400	7,200	8,600	8,600	5,900	8,600	8,600	5,900	
5 ft	SA – 2 sets stabilizers up				16,100	16,100	11,200	10,500	10,500	7,500	7,600	7,600	5,400	5,700	5,700	4,000	4,700	4,700	3,200	4,700	4,700	3,200	33.92
	SA – 2 sets stabilizers down				*27,100	*27,100	*27,100	*19,800	*19,800	17,900	*15,200	*15,200	12,600	*11,700	*11,700	9,500	*8,700	*8,700	7,900	*8,700	*8,700	7,900	
	Narrow – 2 sets stabilizers up				14,300	14,300	9,700	9,400	9,400	6,500	6,700	6,700	4,600	5,100	5,100	3,400	4,100	4,100	2,700	4,100	4,100	2,700	
	Narrow – 2 sets stabilizers down				*27,100	*27,100	20,500	19,500	19,500	13,100	13,600	13,600	9,300	10,200	10,200	7,000	8,400	8,400	5,800	8,400	8,400	5,800	
0 ft	SA – 2 sets stabilizers up				15,300	15,300	10,500	10,100	10,100	7,100	7,300	7,300	5,100	5,600	5,600	3,900							
	SA – 2 sets stabilizers down				*22,100	*22,100	*22,100	*18,100	*18,100	17,400	*13,800	*13,800	12,300	*10,200	*10,200	9,400							
	Narrow – 2 sets stabilizers up				13,500	13,500	9,000	8,900	8,900	6,000	6,500	6,500	4,400	4,900	4,900	3,300							
	Narrow – 2 sets stabilizers down				*22,200	*22,200	19,600	*18,200	*18,200	12,600	13,300	13,300	9,000	10,100	10,100	6,900							

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

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Standard Equipment

Standard equipment may vary. Consult your Cat dealer for details.

ELECTRICAL

- Alternator, 115A
- Heavy Duty maintenance free batteries
- Lighting
 - Boom and stick LED working light
 - One LED light on the counterweight for the rear camera, and one on the right for the sideview camera
 - Cab LED interior dome light
 - Rooding lights, two front, halogen
 - Rooding lights, two rear, LED
 - Working LED lights, cab mounted (two front and one rear), compatible with Falling Object Guards
- Main shut-off switch
- Signal/warning horn

ENGINE

- Cat C7.1 ACERT technology engine meets Tier 4 Final/Stage IV emission standards
- Aftertreatment technologies including the Cat Clean Emission Module (Cat CEM) package
- Air filter
- 3000 m (9,842 ft) altitude capability without de-rate
- Automatic Engine Speed Control (AESC), including One Touch Low Idle
- Engine Idle Shutdown (EIS)
- Automatic starting aid
- Fuel filter
- Fuel/water separator with water in fuel switch
- 48° C (188.8° F) ambient cooling capability without de-rate
- Power mode selector
- Electric fuel priming pump

HYDRAULICS

- Adjustable hydraulic sensitivity
- Cat XT™-6 ES hoses
- Control circuits (standard and optional, depending on boom/stick/linkage choice):
 - Medium pressure
 - Two-way, medium pressure circuit, for rotating or tilting of attachments
- Heavy lift mode
- Load-sensing hydraulic system
- Quick disconnect couplings
- Separate swing pump
- Electronic Pump Control (EPC)
- Boom Lowering Check Valve (BLCV), including overload warning device
- Stick Lowering Check Valve (SLCV)

(continued on next page)

Standard Equipment *(continued)*

Standard equipment may vary. Consult your Cat dealer for details.

OPERATOR STATION

- Additional color monitor for cameras, split-screen display for both cameras' view
- Adjustable armrests
- Air conditioner, heater and defroster with automatic climate control
- Beverage cup/can holder
- Bolt-on top/front guards capability
- Bottle holder
- Bottom mounted, intermittent (four speeds), parallel wiping system, covering upper and lower windshield glass
- CD/MP3 radio (12V) including speakers and 12V converter
- Coat hook
- Cruise control system
- Floor mat, washable, with storage compartment
- Fully adjustable suspension seat
- Hydraulic cab riser
- Instrument panel and gauges, full graphic and color display
 - Information and warning messages in local language
 - Gauges for fuel and DEF levels, engine coolant and hydraulic oil temperature
 - Filters/fluids change interval, working hours
 - Indicators for headlights, turning signal, low fuel, engine dial setting
 - Clock with 10-day backup battery
- Interior LED lighting with door switch
- Joysticks, pilot operated with one proportional slider
- Laminated front windshield
- Left side console, tiltable, with lock out for all controls
- Cigarette lighter (24V)

- Literature holder in right console
- Mobile phone holder
- Parking brake
- Pin code type engine start prevention, integrated into the monitor
- Power supply, 12V-10A
- Rear window (tempered glass)/emergency exit, with hammer
- Retractable seat belt, integrated into the seat
- Seat belt indicator and alarm
- Skylight, laminated glass
- Sliding door windows
- Steering column, adjustable angle and height
- Step, integrated into the skirt
- Storage area suitable for a lunch box
- Sunshade for windshield and skylight
- Safety lever, integrated into the left console
- Sealed cab, with positive filtered, variable speed ventilation

UNDERCARRIAGE

- Automatic brake and axle lock
- Automatic swing and implement lock
- Creeper speed
- Four wheel drive
- Heavy-duty axles, advanced travel motor, adjustable braking force and disc brake system
- Oscillating front axle, lockable, with remote greasing point
- Steps, wide, left and right
- Tool boxes, left and right, in undercarriage
- Two-speed hydrostatic transmission
- One-piece drive shaft, with 1,000 hours greasing intervals

OTHER EQUIPMENT

- Auto-lube system (implements and swing gear)
- Automatic swing brake
- Capability to add auxiliary hydraulic circuit
- Electronic Technician capability (ET)
- Counterweight, 3700 kg (8,157 lb)
- Door locks and cap locks with Cat one-key security system
- Mirrors, wide angle, frame and cab
- Product Link
- Cameras
 - Rear mounted wide angle camera, integrated into the counterweight
 - Right side wide angle camera, mounted on the cooling hood
- S·O·SSM Quick Sampling valves for engine oil, hydraulic oil and coolant
- Engine emergency shutoff switch
- Spacer rings for tires
- Cooling package, fine mesh screen, and engine air precleaner

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

AUXILIARY CONTROLS AND LINES

- Auxiliary boom and stick lines
- Control circuits (standard and optional, depending on boom/stick/linkage choice):
 - Tool control/multi function
 - One/two-way high pressure for hammer application or opening and closing of an attachment
 - Programmable flow and pressure for up to 10 attachments – selection via monitor
 - Quick coupler circuit and lines for Cat Pin Grabber coupler, controlled by a dedicated switch
- SmartBoom

HYDRAULICS

- Cat BIO HYDO Advanced HEES biodegradable hydraulic oil

FRONT LINKAGE

- VA boom, 5260 mm (17'3"):
 - Straight stick
 - 2500 mm (8'2")
 - 2800 mm (9'2")
 - Industrial stick
 - 3300 mm (10'10")
- One-Piece boom, 5350 mm (17'7"):
 - Straight stick
 - 2500 mm (8'2")
 - 2800 mm (9'2")
 - Industrial stick
 - 3300 mm (10'10")
- Material Handling boom, 6400 mm (21'0"):
 - Drop nose MH stick
 - 4900 mm (16'1")
 - Straight MH stick
 - 4200 mm (13'9")
- Material Handling boom, 5350 mm (17'7"):
 - Drop nose MH stick
 - 4900 mm (16'1")
 - Straight MH stick
 - 4200 mm (13'9")

ELECTRICAL

- Travel alarm
- Rotating beacon
- Generator, 15 kW
- Kit, generator, 15 kW***

OPERATOR STATION

- Top/front guards
- Joystick steering
- Advanced joysticks, with two proportional sliders
- Pedal HPF/Hammer for auxiliary operation
- Seat, adjustable high-back, with vertical and horizontal air-suspension and head rest
 - Automatic weight adjustment, mechanical lumbar support, passive climate system, seat cushion length/angle adjustment and heated seat (Comfort)
 - Automatic height and weight adjustment, active climate system, premium microfiber seat fabric, pneumatic lumbar support, seat cushion length and angle adjustment and adjustable dampening, heated and ventilated (Deluxe)
- Visor for rain protection
- Windshield
 - One-piece, impact resistant, laminated windshield and skylight (EN356 P5A standards, 10 mm/0.4 in)
 - 70/30 split, openable. Two-parts split, fixed, high impact resistant, with skylight (EN356 P8B standards, 26 mm/1 in).
- Mirrors, electrically adjustable and heated, frame and cab

TIRES*

- Dual pneumatic 10.00-20
- Dual pneumatic 11.00-20
- Dual solid rubber, 10.00-20

UNDERCARRIAGE

- MH Narrow undercarriage with four welded outriggers
- MH undercarriage with four welded outriggers
- MH undercarriage with four welded outriggers and front mounted blade
- Standard undercarriage, with outriggers (front and/or rear), dozer blade (front or rear)
- Easy Cab Access package with ladder

OTHER EQUIPMENT

- Bucket linkages
- Cat Machine Security System
- Counterweight, 4200 kg (9,260 lb)
- Hydraulic quick coupler
- Maximum speed 20 kph (12.4 mph) or 25 kph (15.5 mph)**
- Refueling pump with dedicated tray for the hose
- Waste Handling package, adds a reversing fan and vibrating grill to the cooling protection package
- Kit, Waste Handling package
- Cab pre-filtration system
- Attachments (see p. 28)

*Dual Pneumatic 10.00-20 not compatible with MH undercarriage

Dual Pneumatic 11.00-20 not compatible with MH narrow undercarriage

**25 kph (15.5 mph) not compatible with solid tires

***Available starting 2017

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