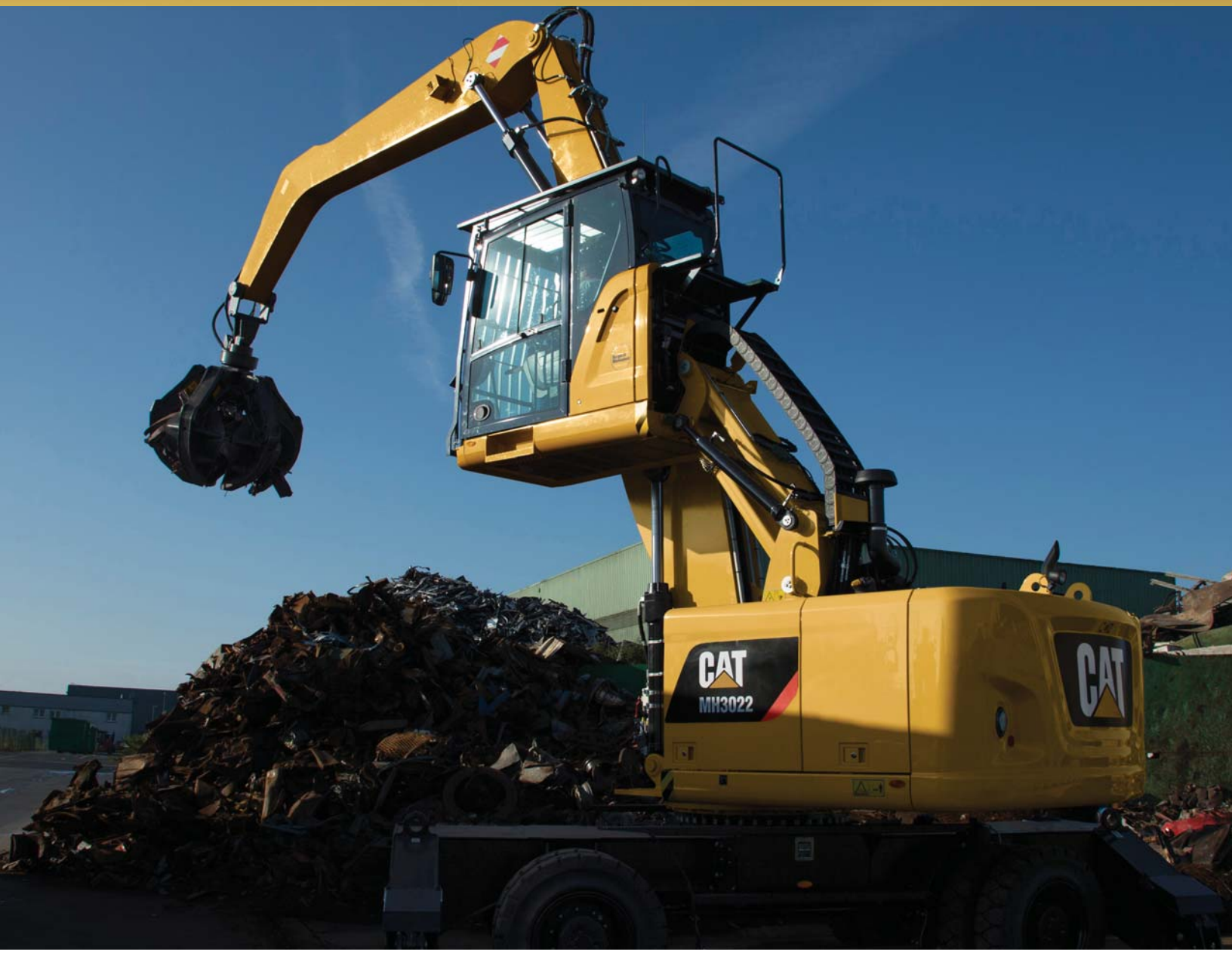
MH3022

Wheel Material Handler

2018



Engine		
Engine Model	Cat® C7.1 ACERT™	
Emissions	EU Stage IV	
Power (Maximum)		
ISO 9249 at 1,550 rpm	126 kW	169 hp
ISO 9249 at 1,550 rpm (metric)		171 hp (PS)
ISO 14396 at 1,550 rpm (gross)	129.4 kW	174 hp
ISO 14396 at 1,550 rpm (gross) (metric)		176 hp (PS)

Weights	
Operating Weight with Work Tool	20 865 kg-24 600 kg
Working Ranges (MH boom, stick 4900 mm)	
Maximum Reach (stick pin)	11 005 mm
Maximum Height (stick pin)	12 065 mm
Drive	
Maximum Travel Speed	25 km/h

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 is the agile solution in all space-restricted areas, while offering good reach; the perfect fit for all indoor sorting and waste applications. Our wheel material handlers are designed to cope with harsh environments of industrial, scrap, and waste recycling operations, which call for safe and reliable products with low operating costs.

Contents

Our wheel material handlers are 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.

Sustainability

Generations Ahead in Every Way

Fuel Efficiency and Reduced Exhaust Emissions

The engine meets Stage IV emission standards, is powerful and efficient, with an optimized 10% fuel consumption improvement versus the previous series and no impact on your productivity. This means less resource consumption and fewer CO_2 emissions.

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.
- You 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 10 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.

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 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.

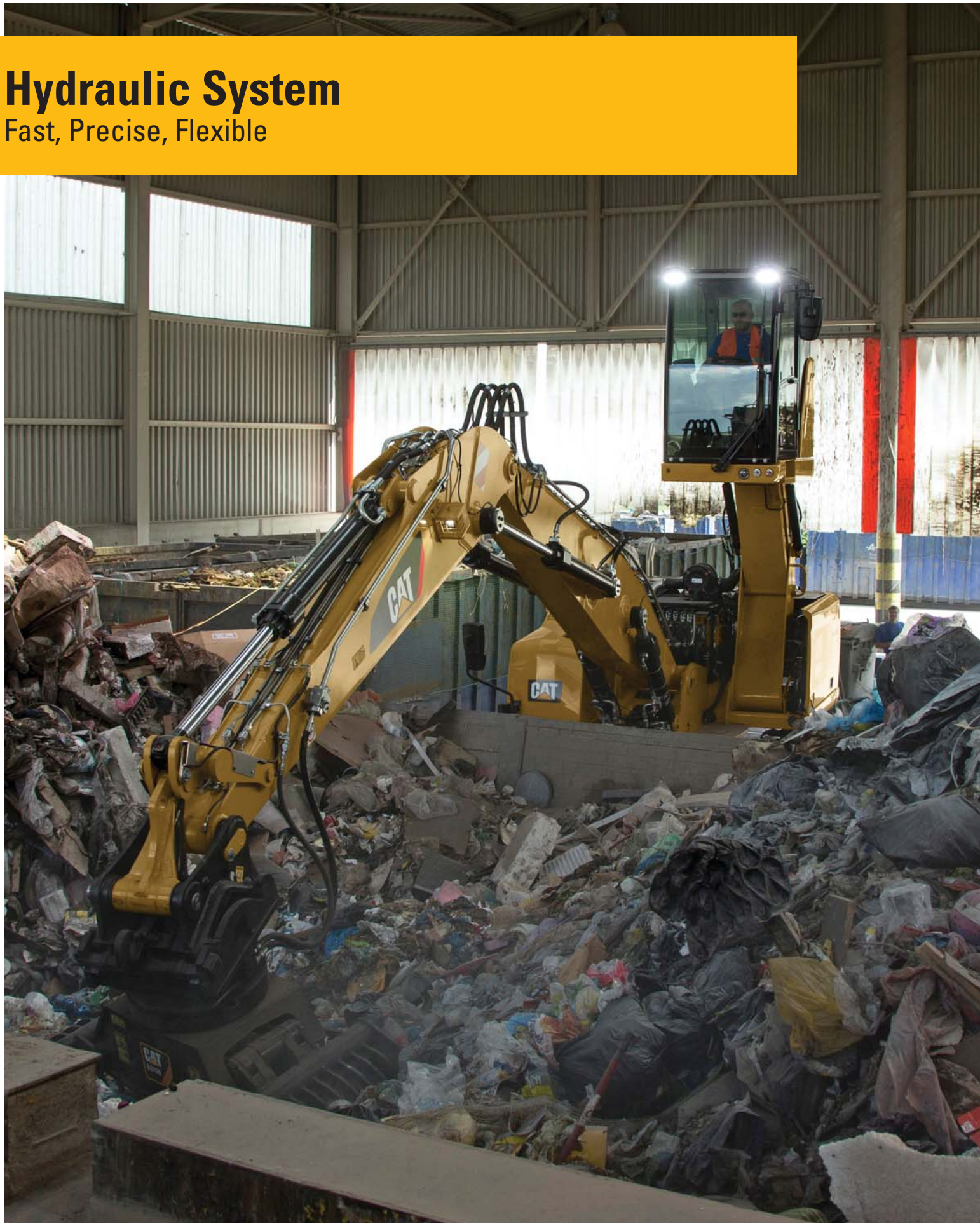
Proven Technology
To assure that our technology will meet your expectations for reliable trouble-free service, we subjected these engines and technologies to extensive operating hours of test and validation.

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.
- **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 cooling package offers unprecedented up-times even in difficult environments.

Structure – Elevated Cab and Frame

Strength, Flexibility and Mobility

High Visibility – 2400 mm 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. Two different undercarriages are available to provide the stability you need for your applications:

- The 2.55 m Material Handling undercarriage is specifically designed for limited space applications – Thanks to smaller undercarriage width and length, and to its symmetrical design, this undercarriage enhances maneuverability and flexibility in tight areas.
- **NEW!** 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.

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.

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.

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 Booms

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 Drop Nose Stick offers the reaching and lifting capabilities required for typical MH applications.

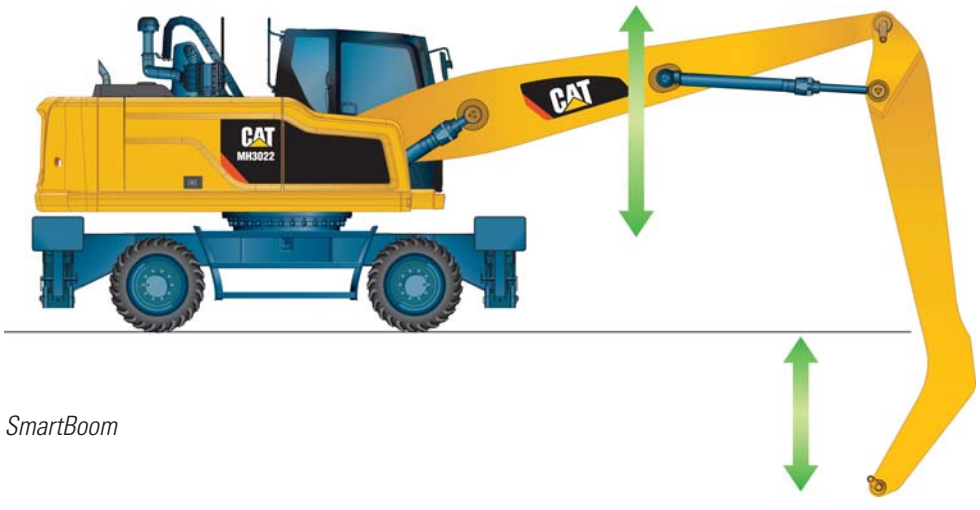
NEW! A new 4500 mm Drop Nose Stick allows machines to move to different job sites with a transport position height below the critical 4 m without stick removal. This translates into significant time and costs savings.

The 4200 mm Straight Stick is the best solution when additional work tool functionality is needed.

Special Applications

Our Material Handlers offer 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.

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



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.
- The swing lock can be applied independently from the implements lock at low speed (below 5 km/h)

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

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

Details That Make the Difference

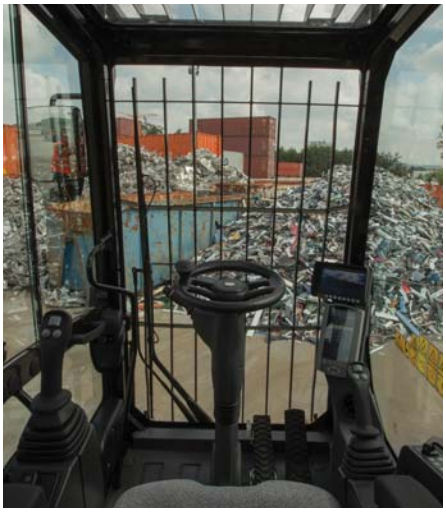
Have a look at the cab; you will see it is through details that we improve pleasure of operating.

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
- Joystick and left pedal controls assignments: can be set up as desired and per tool
- Optional advanced joystick offering more controls (two sliders, five buttons each)
- Automatic air conditioning
- 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

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.

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 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 pre-cleaner.
- 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 Options
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 new 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 work 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.

EQUIPMENT MANAGEMENT

Equipment Management – increase uptime and reduce operating costs.

PRODUCTIVITY

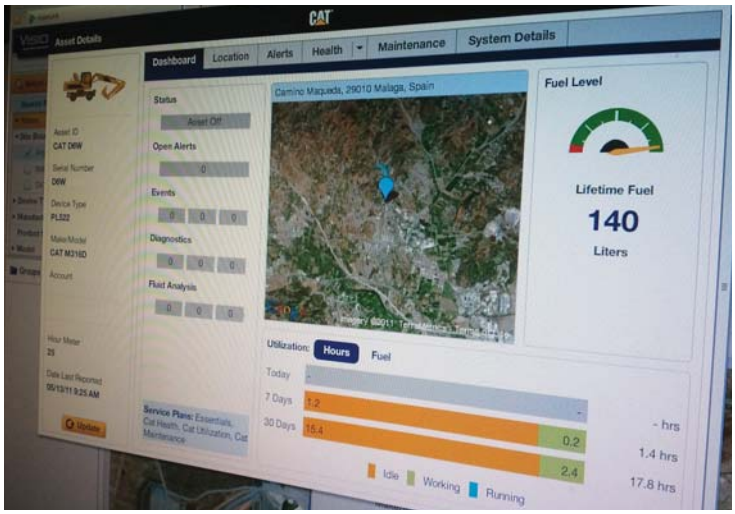
Productivity – monitor production and manage job site efficiency.

SAFETY

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

Link

Link technologies provide wireless capability to machines to enable two-way transfer of information.



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.

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.

Work Tool Attachments

Move More, Make More

Optional 15 kW Cat Generator with Solid State Controller

If your work tool 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 diameter magnet. The optional solid state genset would be placed in the upper frame for ease of maintenance without obstructing other machine components.

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.

Attachment Solutions for Industrial and Recycling Applications

When productivity, reliability and stability are important, Cat attachments are the perfect solution.

Productive and Perfectly Matched

Loading and unloading is foundational to your productivity. Grapples 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. 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 1000 L. Several shell choices allow further customization of your grapple to the specific material you work with.

NEW! Grapples can further reduce fuel consumption. They feature reduced weight and improved cycle times. Castings in place of welded structures in high stress areas increase the durability of your equipment.

Clamshell Grapples

The perfect solution for loading and transferring large volumes of loose material like grain, coal, sand and gravel. These grapples are configured with several shells for different capacity options to meet your specific requirements.

Digging Grapples

Cat Digging grapples are designed to suit MH machines for digging applications where good penetration is required.

Waste Handling Grapples

The dedicated waste handling grapple has been specifically designed to offer high volume for maximum loads and proven fuel consumption.

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.

Safety
Your Safety Is NOT Optional

Embedded Features

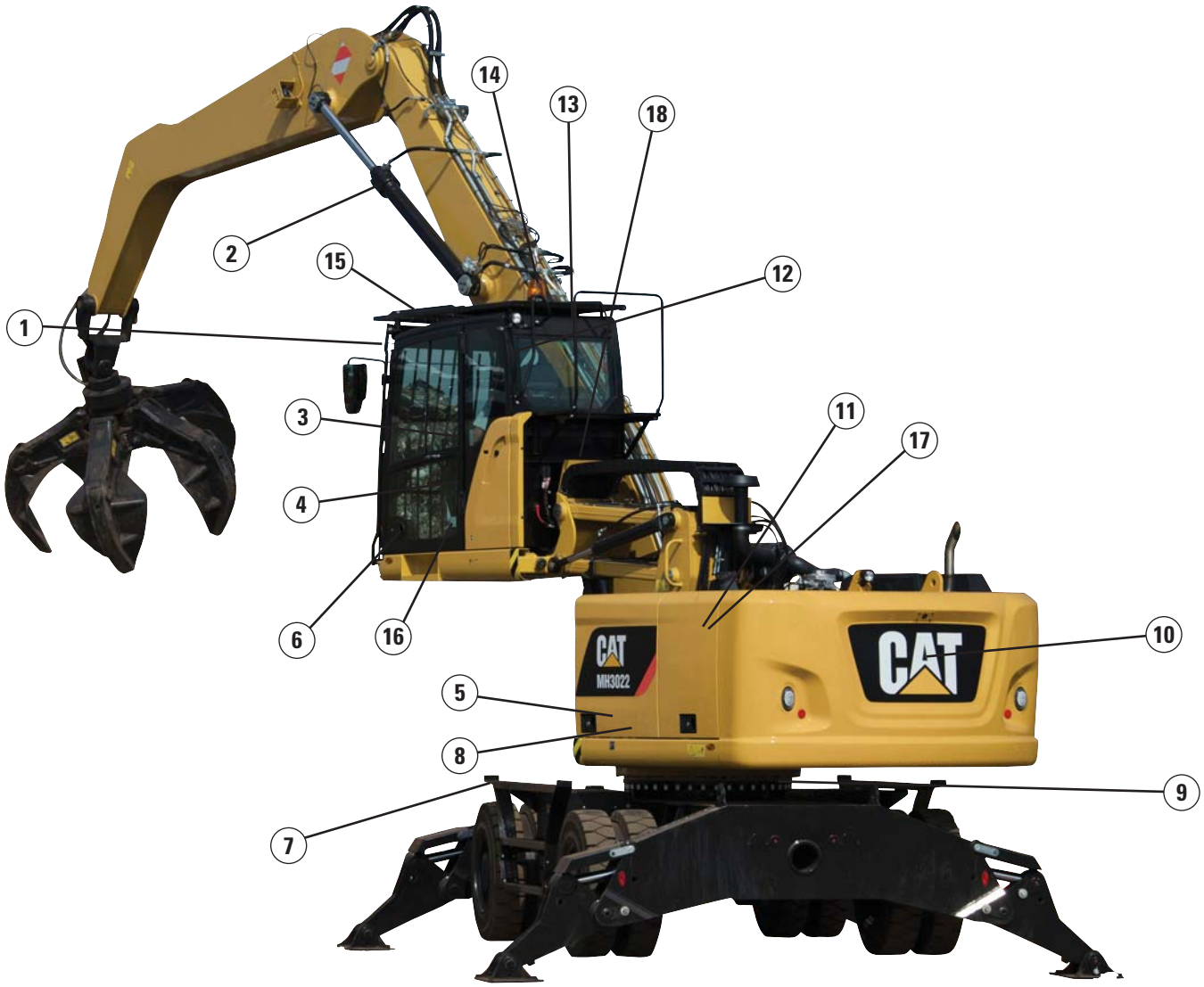
Smart embedded devices help enforce safe behavior:

- 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
- Secondary shut off switch and battery disconnect switch
- Travel alarm
- Lowering check valves
- Quick coupler control switch, ISO 13031 compliant

Cab Ingress

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

- Three long 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!** Direct access to the cab when it is not aligned with the chassis through optional steps on the front and rear of the undercarriage.



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) *Adjustable travel alarm*
11) *All doors equipped with gas strut cylinders*
12) *Emergency hammer and exit*
13) *Sound proofing*
14) *Beacon available*
15) *TOPS 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) *Advanced Cab Filtration System (optional)*

Safety Options for Specific Applications

- **Impact Resistant One-Piece Windshield and skylight**, 10 mm thick, fulfills EN356 P5A standards.
- **High Impact Resistant fixed Windshield (two-parts) and skylight**, 26 mm thick, fulfills EN356 P8B standards.
- **Advanced Cab Filtration System** – A cab filtration package reduces dust entry and air contamination. It includes:
  - an integrated air pre-cleaner, 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

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 (PS)
Net Power (Rated) [2]		
ISO 9249/SAE J1349	126 kW	169 hp
ISO 9249/SAE J1349 (metric)		171 hp (PS)
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 (PS)
80/1269/EEC	126 kW	
Bore	105 mm	
Stroke	135 mm	
Displacement	7.01 L	
Maximum Torque at 1,400 rpm	830 N·m	
Number of Cylinders	6	

[1] Meets 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 deratings required up to 3000 m altitude. Automatic derating occurs after 3000 m.

Transmission

Forward/Reverse	
1st Gear	10.0 km/h
2nd Gear	25.0 km/h
Creeper Speed	
1st Gear	3.0 km/h
2nd Gear	10.0 km/h
Drawbar Pull	125 kN
Maximum Gradeability at 23.500 kg	65%

Swing Mechanism

Maximum Swing Speed	8.1 rpm
Maximum Swing Torque	54 kN·m

Undercarriage

Axle Ground Clearance	325 mm
Maximum Steering Angle	35.0°
Oscillation Axle Angle	±5.0°
Minimum Turning Radius*	
Outside of Tire	6800 mm
End of VA Boom	7600 mm
End of One-Piece Boom	9000 mm
End of MH Boom (with 4.9 m drop-nose stick)	8800 mm

*Boom and stick in travel position.

Service Refill Capacities

Fuel Tank (total capacity)	330 L
Diesel Exhaust Fluid Tank	34.5 L
Cooling System	46.9 L
Engine Crankcase	18.5 L
Rear Axle Housing (differential)	14 L
Front Steering Axle (differential)	10.5 L
Final Drive	2.5 L
Powershift Transmission	2.5 L

MH3022 Wheel Material Handler Specifications

Weights

Operating Weights*	21 815 kg-22 930 kg
Long MH Boom (6.4 m)	
MH 2.55 m Undercarriage, Straight Stick	22 930 kg
MH 2.55 m Undercarriage, 4.5 m Drop Nose Stick	22 500 kg
MH 2.55 m Undercarriage, 4.9 m Drop Nose Stick	22 525 kg
Short MH Boom (5.35 m)	
MH 2.55 m Undercarriage, Straight Stick	22 670 kg
MH 2.55 m Undercarriage, 4.5 m Drop Nose Stick	22 240 kg
MH 2.55 m Undercarriage, 4.9 m Drop Nose Stick	22 265 kg
One-Piece Boom	
MH 2.55 m Undercarriage, 3.3 m Industrial Stick	21 815 kg
VA Boom	
MH 2.55 m Undercarriage, 2800 mm Digging Stick	22 685 kg
Sticks**	
Digging (2500 mm)	850 kg
Digging (2800 mm)	895 kg
Industrial (3300 mm)	515 kg
Straight (4200 mm)	1275 kg
Drop Nose 4500 mm	860 kg
Drop Nose 4900 mm	885 kg
MH Push Blade	560 kg
Solid Tires (delta vs. standard tires)	950 kg
Counterweights	
Standard	3700 kg
Optional	4200 kg

*Operating weight includes solid tires, 3700 kg counterweight, full fuel tank, operator, four outriggers undercarriage, attachment (1400 kg). Weight varies depending on configuration.

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

Hydraulic System

Tank Capacity	153 L
System	345 L

Hydraulic System: Maximum Pressure

Implement Circuit	
Normal	350 bar
Heavy Lift	370 bar
Travel Circuit	350 bar
Auxiliary Circuit	
High Pressure	350 bar
Medium Pressure	210 bar
Swing Mechanism	310 bar

Hydraulic System: Maximum Flow

Implement/Travel Circuit	290 L/min
Auxiliary Circuit	
High Pressure	250 L/min
Medium Pressure	49 L/min
Swing Mechanism	108 L/min

Tires

10.00-20 (dual pneumatic)
10.00-20 (dual solid rubber)

Push Blade

Blade Type	Radial
Blade Height	920 mm
Width	2550 mm

MH3022 Wheel Material Handler Specifications

Emissions and Safety

Engine Emissions	Stage IV
Diesel Exhaust Fluid	Must meet ISO 22241
Fluids (Optional)	
Cat Bio HYDO Advanced	Readily biodegradable
	EU Flower eco-label certified
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/s²
Maximum Whole Body	
ISO/TR 25398:2006	<0.5 m/s²
Seat Transmissibility Factor	
ISO 7096:2000-spectral class EM5	<0.7

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.15 kg of refrigerant which has a CO_2 equivalent of 1.645 metric tonnes.

Standards

Operator Protective Structure	
Top/Front Guards	FOPS (Falling Object Protective Structure) meets FOPS criteria ISO 10262:1998 and SAE J1356:2008
Cab/Sound Levels	Meets appropriate standards as listed below

Sound Performance

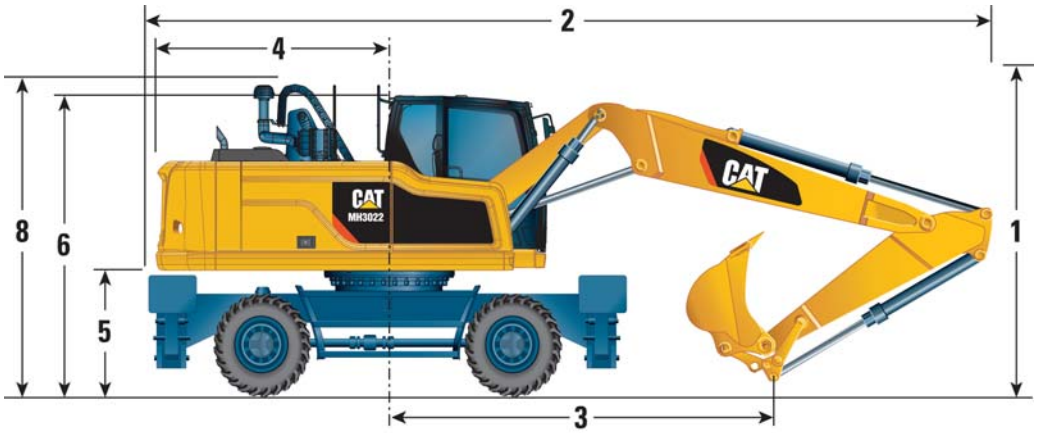
Operator Sound	
ISO 6396:2008	71 dB(A)
Spectator Sound	
2000/14/EC, ISO 6395:2008	99 dB(A)*

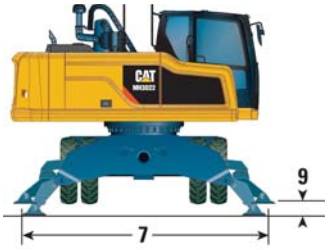
*Noise level is for a machine without the generator.

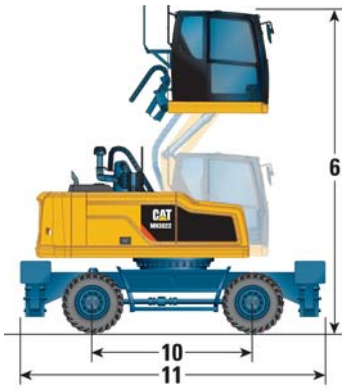
- Operator Sound – The operator sound level is measured according to the procedures specified in ISO 6396:2008, for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed.
- Exterior Sound – The labeled spectator sound power level is measured according to the test procedures and conditions specified in 2000/14/EC as amended by 2005/88/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).

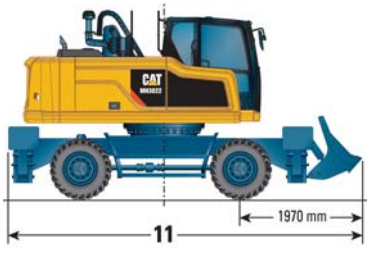
Dimensions – With MH Undercarriage

All dimensions are approximate.









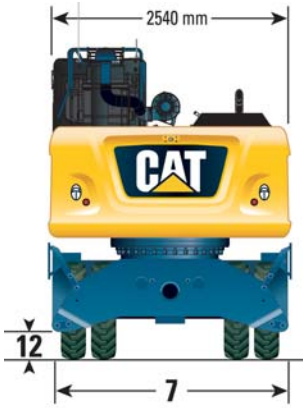
		VA Boom			One-Piece Boom		
Stick Length	mm	**2500**	**2800**	**3300**	**2500**	**2800**	**3300**
Stick Type		**Digging**		**Industrial**	**Digging**		**Industrial**
1 Shipping Height with Falling Object Guard (highest point between boom and cab)	mm	3325			3325		
2 Shipping Length	mm	8915	8890	8940	9025	9025	9040
3 Support Point	mm	3625	3485	3270	3480	3300	3070
4 Tail Swing Radius	mm	2570					
5 Counterweight Clearance	mm	1310					
6 Cab Height with Hydraulic Cab Riser							
Cab Lowered – No Falling Object Guard	mm	3210					
Cab Lowered – with Falling Object Guard	mm	3340					
Cab Raised – with Falling Object Guard	mm	5740					
Cab Raised – No Falling Object Guard	mm	5610					
7 Overall Machine Width							
Width with Outriggers on Ground	mm	3680					
Width with Outriggers Up	mm	2550					
Width with the Special Front Push Blade	mm	2550					
8 Height of Tray Group Flex	mm	3325					
9 Maximum Outriggers Depth	mm	120					
10 Wheel Base	mm	2600					
11 Undercarriage Length	mm	4900					
With MH Undercarriage Front Push Blade	mm	5825					
12 Undercarriage Clearance	mm	295					

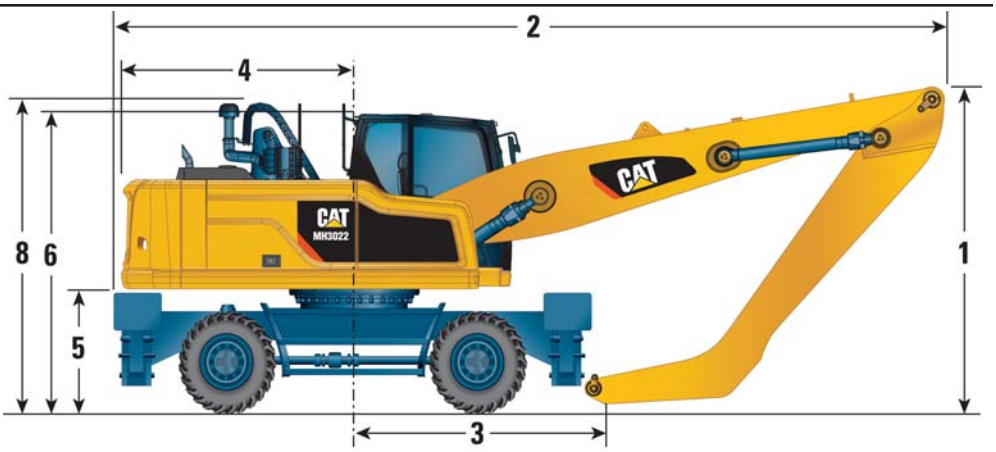
Dimensions with MH 2.55 m undercarriage, outriggers front and rear, and without work tool.
Note: Values are with 10.00-20 pneumatic or with solid tires.

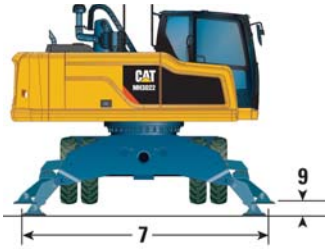
MH3022 Wheel Material Handler Specifications

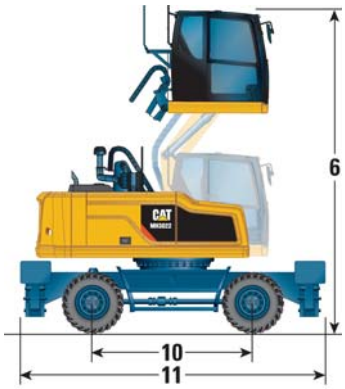
Dimensions – With MH Undercarriage

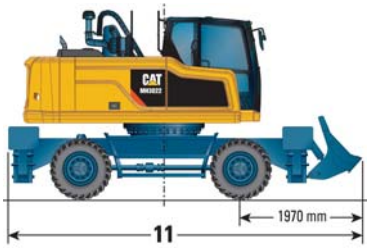
All dimensions are approximate.











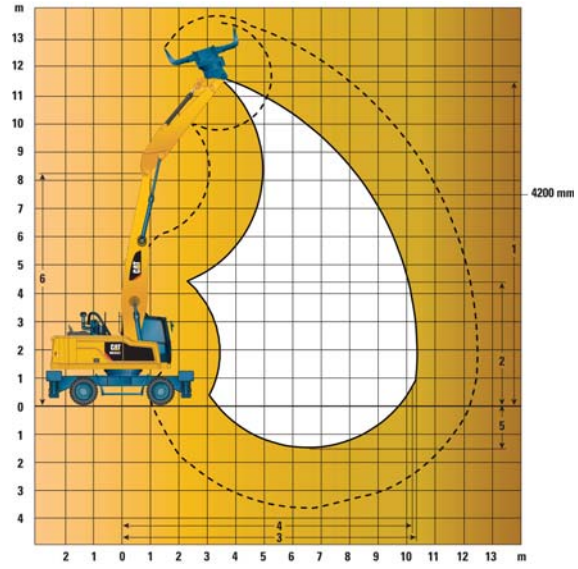
		Long MH Boom			Short MH Boom		
Boom Length	mm	**6400**			**5350**		
Stick Type		**Straight**	**Drop Nose**		**Straight**	**Drop Nose**	
Stick Length	mm	**4200**	**4500**	**4900**	**4200**	**4500**	**4900**
1 Shipping Height with Falling Object Guard (highest point between boom and cab)	mm	3325	3325	3620	3340	3350	4535
2 Shipping Length	mm	9420	9360	9280	8310	8255	7885
3 Support Point	mm	3230	4300	2760	2190	2165	2400
4 Tail Swing Radius	mm	2570					
5 Counterweight Clearance	mm	1310					
6 Cab Height with Hydraulic Cab Riser							
Cab Lowered – No Falling Object Guard	mm	3210					
Cab Lowered – with Falling Object Guard	mm	3340					
Cab Raised – with Falling Object Guard	mm	5740					
Cab Raised – No Falling Object Guard	mm	5610					
7 Overall Machine Width							
Width with Outriggers on Ground	mm	3680					
Width with Outriggers Up	mm	2550					
Width with the Special Front Push Blade	mm	2550					
8 Height of Tray Group Flex	mm	3325					
9 Maximum Outriggers Depth	mm	120					
10 Wheel Base	mm	2600					
11 Undercarriage Length	mm	4900					
With MH Undercarriage Front Push Blade	mm	5825					
12 Undercarriage Clearance	mm	295					

Dimensions with MH 2.55 m undercarriage, outriggers front and rear, and without work tool.
When the shipping height is over 4 m, the stick must be removed for transportation.
Note: Values are with 10.00-20 pneumatic or with solid tires.

Working Ranges

Values with an attachment are calculated with a G315B-WH grapple for the straight stick and a GSH15B-5-600 orange peel grapple for drop nose sticks.

1



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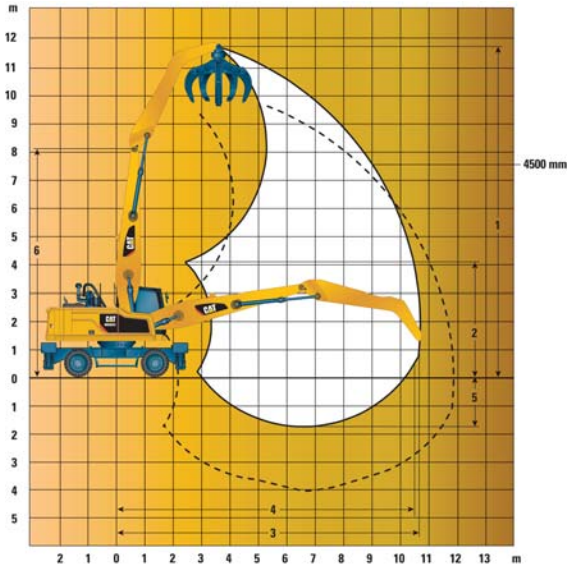

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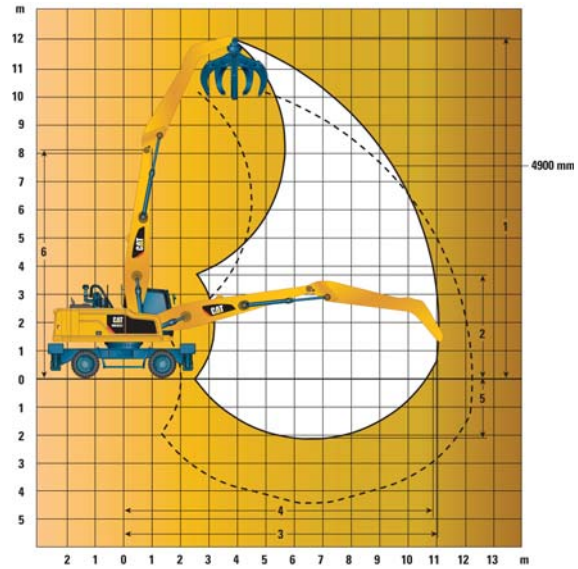

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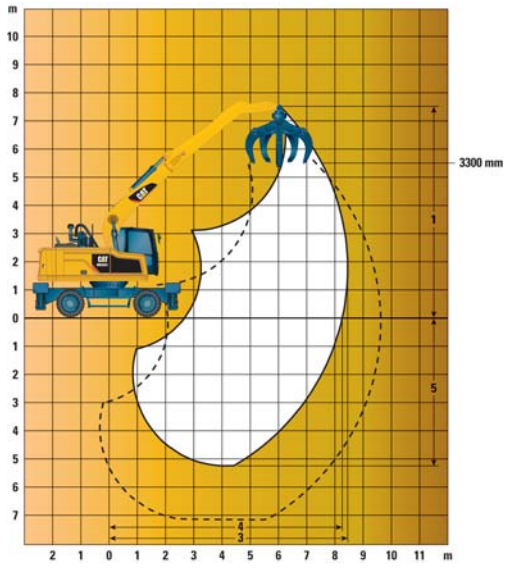


		1	2	3	4
Boom Type/Length		**Long MH Boom/6400 mm**			**One-Piece Boom**
Stick Length	mm	**4200**	**4500**	**4900**	**3300**
Stick Type		**Straight**	**Drop Nose**	**Drop Nose**	**One-Piece**
1 Maximum Height	mm	11 520	11 755	12 065	7720
2 Minimum Dump Height	mm	4330	4050	3680	—
3 Maximum Reach	mm	10 345	10 630	11 005	8130
4 Maximum Reach at Ground Level	mm	10 175	10 130	10 845	7920
5 Maximum Depth	mm	1485	1785	2185	4820
6 Boom Pin Height	mm	8235	8235	8235	—

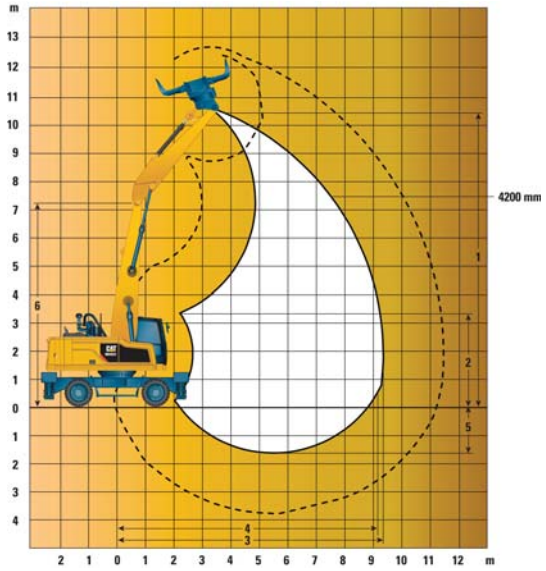
All dimensions refer to stick nose pin, with solid tires.

MH3022 Wheel Material Handler Specifications

Working Ranges

Values with an attachment are calculated with a G315B-WH grapple for the straight stick and a GSH15B-5-600 orange peel grapple for drop nose sticks.

1



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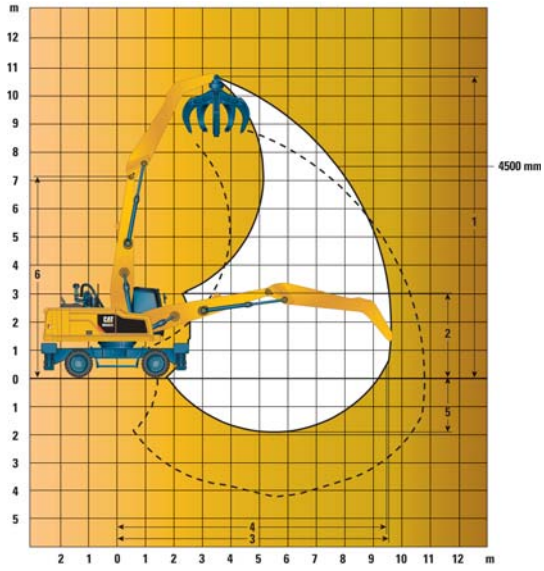

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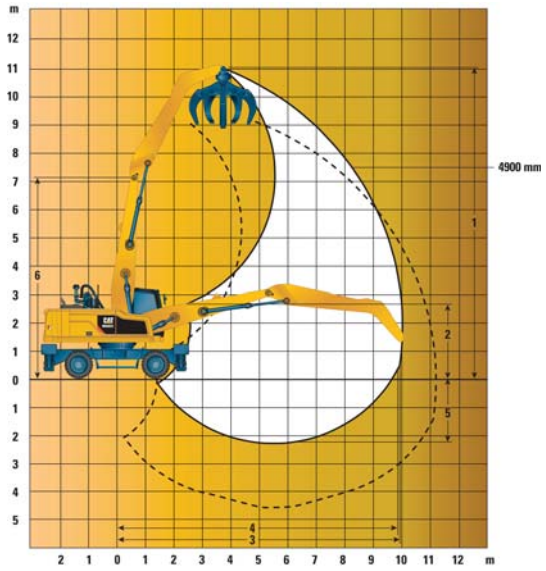

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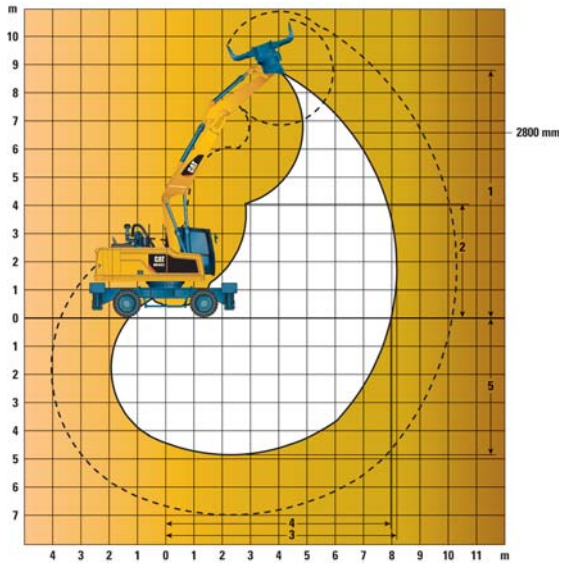

		1	2	3	4
Boom Type/Length		**Short MH Boom/5350 mm**			**Variable Adjustable Boom**
Stick Length	mm	**4200**	**4500**	**4900**	**2800**
Stick Type		**Straight**	**Drop Nose**	**Drop Nose**	**Variable Adjustable**
1 Maximum Height	mm	10 445	10 680	11 020	10 165
2 Minimum Dump Height	mm	3255	2975	2635	7180
3 Maximum Reach	mm	9325	9610	9990	9735
4 Maximum Reach at Ground Level	mm	9145	9190	9815	9565
5 Maximum Depth	mm	1655	1955	2325	6330
6 Boom Pin Height	mm	7160	7160	7160	—

All dimensions refer to stick nose pin, with solid tires.

Work Tool Offering Guide*

Counterweight		3.7 mt			4.2 mt			3.7 mt			4.2 mt		
Undercarriage		MH (2.55 m) 2 Sets Outriggers Lowered						MH (2.55 m) 2 Sets Outriggers Lowered					
Boom Type		MH Boom (6.4 m)						MH Boom (5.35 m)					
Stick Length		4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]
Material Handling Work Tools													
Demolition and Sorting Grapple	G315 GC												
	G315 GC fixed CAN												
	G315B-D/R												
	G315B-D/R fixed CAN												
	G315B-WH 800 L												
	G315B-WH 1100 L												
Orange Peel Grapple Horizontal Cylinders (4 or 5 Tines)	GSH15B 400 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSH15B 500 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSH15B 600 L	1.2	1.8	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSH15B 800 L		1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
	GSH420/GSH520 500 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSH420/GSH520 600 L	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSH420/GSH520 750 L	1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Orange Peel Grapple Vertical Cylinders (5 Tines)	GSV520/GSV520GC 400 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSV520/GSV520GC 500 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSV520/GSV520GC 600 L	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	GSV520/GSV520GC 750 L	1.2	1.2	1.2	1.2	1.8	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Clamshell Grapple	CTV15 1000 L		1.2	1.2	1.2	1.2	1.2	1.2	1.8	1.2	1.8	1.8	1.8
	CTV15 1200 L							1.2	1.2	1.2	1.2	1.2	1.2
	CTV15 1500 L											1.2	
Material Density		1.2 [T/m³] (less dense material)/1.8 [T/m³] (standard material)											

[1] Straight Stick

[2] Drop Nose Stick

- Work tool is a match
- Pin-on or dedicated coupler
- Pin-on only
- Over the front only
- Over the front only with dedicated coupler
- Over the front only with Cat PG coupler
- Not recommended

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

Fixed CAN: CW quick coupler adapter plates

Demolition and Sorting Grapple: D – Demolition shells; R – Recycling shells; WH – Waste Handling

MH3022 Wheel Material Handler Specifications

Work Tool Offering Guide*

Counterweight		3.7 mt			4.2 mt			3.7 mt			4.2 mt		
Undercarriage		MH (2.55 m) 2 Sets Outriggers Lowered						MH (2.55 m) 2 Sets Outriggers Lowered					
Boom Type		MH Boom (6.4 m)						MH Boom (5.35 m)					
Stick Length		4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]	4200 mm[1]	4500 mm[2]	4900 mm[2]
Demolition Work Tools													
Hydraulic Hammer	B20												
	H115Es												
	H120Es												
	H130Es												
Multi-Processor	MP318 CC Jaw												
	MP318 D Jaw												
	MP318 P Jaw												
	MP318 U Jaw												
	MP318 S Jaw												
Crusher	P315												
Pulverizer	P215												
Scrap and Demolition Shear	S320B												
	S325B												
	S340B												
Compactor Plate	CVP75												
Pin Grabber Coupler	Cat PG	These couplers are available for the MH3022 (linkage stick).											
Dedicated Quick Coupler	CW-30												
	CW-30s												

[1] Straight Stick

[2] Drop Nose Stick

Boom mount

Not recommended

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

Lift Capacities

All values are in kg, bucket cylinder and linkage installed, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
5.35 m MH (Short)

Stick
4.2 m Straight

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm						mm
9000 mm	Stabilizers raised – solid tires				8450	8450	6150										5350	5350	3900	5900
	Stabilizers lowered – solid tires				*8550	*8550	*8550										*5750	*5750	*5750	
7500 mm	Stabilizers raised – solid tires							5300	5300	3900							3700	3700	2650	7380
	Stabilizers lowered – solid tires							*8250	*8250	7100							*5100	*5100	4950	
6000 mm	Stabilizers raised – solid tires							5300	5300	3850	3650	3650	2600				3000	3000	2150	8340
	Stabilizers lowered – solid tires							*8600	*8600	7100	6900	6900	4850				*4800	*4800	4050	
4500 mm	Stabilizers raised – solid tires				8250	8250	5950	5150	5150	3750	3550	3550	2550				2650	2650	1850	8940
	Stabilizers lowered – solid tires				*11 100	*11 100	*11 100	*8900	*8900	6950	6850	6850	4800				*4750	*4750	3550	
3000 mm	Stabilizers raised – solid tires	15 600	15 600	10 450	7750	7750	5500	4950	4950	3550	3450	3450	2450	2550	2550	1800	2450	2450	1700	9260
	Stabilizers lowered – solid tires	*18 000	*18 000	*18 000	*12 250	*12 250	10 800	*9300	*9300	6700	6700	6700	4700	5000	5000	3500	4750	4750	3350	
1500 mm	Stabilizers raised – solid tires	*11 900	*11 900	9100	7250	7250	5050	4700	4700	3300	3350	3350	2350	2500	2500	1750	2400	2400	1650	9320
	Stabilizers lowered – solid tires	*11 900	*11 900	*11 900	*12 950	*12 950	10 200	*9450	*9450	6450	6550	6550	4550	4950	4950	3450	4650	4650	3250	
0 mm	Stabilizers raised – solid tires	*6250	*6250	*6250	6850	6850	4700	4500	4500	3150	3250	3250	2250							
	Stabilizers lowered – solid tires	*6250	*6250	*6250	*12 250	*12 250	9800	*8900	*8900	6200	6450	6450	4450							
–1500 mm	Stabilizers raised – solid tires				6650	6650	4500	4400	4400	3000										
	Stabilizers lowered – solid tires				*9850	*9850	9600	*7300	*7300	6100										

*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.

Lift Capacities

All values are in kg, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
5.35 m MH (Short)

Stick
4.5 m (drop nose)

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm						mm
10 500 mm	Stabilizers raised – solid tires																*7200	*7200	*7200	3960
	Stabilizers lowered – solid tires																*7200	*7200	*7200	
9000 mm	Stabilizers raised – solid tires							5550	5550	4100							5050	5050	3750	6340
	Stabilizers lowered – solid tires							*6400	*6400	*6400							*5550	*5550	*5550	
7500 mm	Stabilizers raised – solid tires							5650	5650	4200	3950	3950	2900				3700	3700	2750	7740
	Stabilizers lowered – solid tires							*8350	*8350	7450	*5700	*5700	5150				*4950	*4950	4900	
6000 mm	Stabilizers raised – solid tires							5600	5600	4200	3950	3950	2950				3100	3100	2300	8650
	Stabilizers lowered – solid tires							*8700	*8700	7400	7200	7200	5150				*4750	*4750	4100	
4500 mm	Stabilizers raised – solid tires				8600	8600	6300	5450	5450	4050	3900	3900	2900	2900	2900	2150	2800	2800	2050	9230
	Stabilizers lowered – solid tires				*11 000	*11 000	*11 000	*9050	*9050	7250	7150	7150	5100	5350	5350	3850	*4700	*4700	3700	
3000 mm	Stabilizers raised – solid tires	*15 600	*15 600	10 950	8150	8150	5900	5250	5250	3850	3750	3750	2750	2850	2850	2100	2600	2600	1900	9540
	Stabilizers lowered – solid tires	*15 600	*15 600	*15 600	*12 250	*12 250	11 200	*9500	*9500	7000	7000	7000	5000	5300	5300	3800	*4750	*4750	3450	
1500 mm	Stabilizers raised – solid tires	14 600	14 600	9650	7600	7600	5400	5000	5000	3650	3650	3650	2650	2800	2800	2050	2550	2550	1850	9600
	Stabilizers lowered – solid tires	*20 400	*20 400	*20 400	*13 200	*13 200	10 600	*9800	*9800	6750	6900	6900	4850	5200	5200	3750	4750	4750	3400	
0 mm	Stabilizers raised – solid tires	*7050	*7050	*7050	7200	7200	5050	4800	4800	3450	3550	3550	2550	2750	2750	2000				
	Stabilizers lowered – solid tires	*7050	*7050	*7050	*12 900	*12 900	10 150	*9450	*9450	6550	6750	6750	4750	*5050	*5050	3700				
–1500 mm	Stabilizers raised – solid tires				7000	7000	4850	4700	4700	3350										
	Stabilizers lowered – solid tires				*10 850	*10 850	9900	*8050	*8050	6400										

*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, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
5.35 m MH (Short)

Stick
4.9 m MH (drop nose)

		3000 mm			4500 mm			6000 mm			7500 mm			9000 mm						
	Undercarriage configuration																			**mm**
10 500 mm	Stabilizers raised – solid tires				*6800	*6800	6350										*6100	*6100	5650	4830
	Stabilizers lowered – solid tires				*6800	*6800	*6800										*6100	*6100	*6100	
9000 mm	Stabilizers raised – solid tires							5650	5650	4250							4450	4450	3350	6910
	Stabilizers lowered – solid tires							*6750	*6750	*6750							*4950	*4950	*4950	
7500 mm	Stabilizers raised – solid tires							5750	5750	4300	4000	4000	3000				3450	3450	2550	8210
	Stabilizers lowered – solid tires							*8000	*8000	7550	*6200	*6200	5250				*4500	*4500	4500	
6000 mm	Stabilizers raised – solid tires							5700	5700	4250	4000	4000	3000	2950	2950	2200	2900	2900	2150	9080
	Stabilizers lowered – solid tires							*8400	*8400	7500	7300	7300	5250	*4600	*4600	3900	*4300	*4300	3850	
4500 mm	Stabilizers raised – solid tires							5550	5550	4150	3950	3950	2950	2950	2950	2150	2650	2650	1950	9630
	Stabilizers lowered – solid tires							*8800	*8800	7350	7200	7200	5150	5400	5400	3900	*4250	*4250	3500	
3000 mm	Stabilizers raised – solid tires				8300	8300	6050	5350	5350	3950	3800	3800	2800	2900	2900	2100	2500	2500	1800	9930
	Stabilizers lowered – solid tires				*11 800	*11 800	11 400	*9350	*9350	7100	7100	7100	5050	5300	5300	3800	*4350	*4350	3300	
1500 mm	Stabilizers raised – solid tires	14 950	14 950	9950	7750	7750	5550	5100	5100	3700	3700	3700	2700	2850	2850	2050	2450	2450	1750	9990
	Stabilizers lowered – solid tires	*19 900	*19 900	*19 900	*13 050	*13 050	10 750	*9750	*9750	6850	6900	6900	4900	5250	5250	3750	4500	4500	3250	
0 mm	Stabilizers raised – solid tires	*8150	*8150	*8150	7300	7300	5100	4850	4850	3500	3550	3550	2600	2750	2750	2000				
	Stabilizers lowered – solid tires	*8150	*8150	*8150	*13 150	*13 150	10 250	*9600	*9600	6600	6800	6800	4750	5200	5200	3700				
–1500 mm	Stabilizers raised – solid tires	*7200	*7200	*7200	7050	7050	4900	4700	4700	3350	3500	3500	2500							
	Stabilizers lowered – solid tires	*7200	*7200	*7200	*11 550	*11 550	9950	*8550	*8550	6400	*6300	*6300	4700							

*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.

Lift Capacities

All values are in kg, bucket cylinder and linkage installed, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
6.4 m MH (Long)

Stick
4.2 m Straight

		3000 mm			4500 mm			6000 mm			7500 mm			9000 mm						
	Undercarriage configuration																			**mm**
10 500 mm	Stabilizers raised – solid tires				*8100	*8100	6100										5850	5850	4250	5540
	Stabilizers lowered – solid tires				*8100	*8100	*8100										*6200	*6200	*6200	
9000 mm	Stabilizers raised – solid tires							5300	5300	3900							3650	3650	2600	7420
	Stabilizers lowered – solid tires							*8100	*8100	7100							*5300	*5300	4900	
7500 mm	Stabilizers raised – solid tires							5300	5300	3900	3600	3600	2600				2750	2750	1950	8640
	Stabilizers lowered – solid tires							*8250	*8250	7100	6900	6900	4850				*4900	*4900	3750	
6000 mm	Stabilizers raised – solid tires				8400	8400	6050	5200	5200	3800	3550	3550	2550	2550	2550	1800	2350	2350	1600	9460
	Stabilizers lowered – solid tires				*10 600	*10 600	*10 600	*8500	*8500	7000	6850	6850	4800	5000	5000	3500	4600	4600	3200	
4500 mm	Stabilizers raised – solid tires	*14 500	*14 500	10 850	7900	7900	5650	4950	4950	3550	3450	3450	2450	2550	2550	1750	2100	2100	1400	10 000
	Stabilizers lowered – solid tires	*14 500	*14 500	*14 500	*11 500	*11 500	11 000	*8850	*8850	6750	6750	6750	4700	4950	4950	3450	4150	4150	2900	
3000 mm	Stabilizers raised – solid tires				7250	7250	5050	4650	4650	3300	3300	3300	2300	2450	2450	1650	1950	1950	1300	10 280
	Stabilizers lowered – solid tires				*12 450	*12 450	10 250	*9200	*9200	6400	6550	6550	4500	4850	4850	3400	3950	3950	2700	
1500 mm	Stabilizers raised – solid tires				6650	6650	4500	4350	4350	3000	3150	3150	2150	2350	2350	1600	1900	1900	1250	10 340
	Stabilizers lowered – solid tires				*12 450	*12 450	9600	*9100	*9100	6100	6350	6350	4350	4800	4800	3300	3850	3850	2650	
0 mm	Stabilizers raised – solid tires				6300	6300	4200	4150	4150	2800	3000	3000	2050	2300	2300	1550				
	Stabilizers lowered – solid tires				*9400	*9400	9200	*8350	*8350	5900	6200	6200	4200	4700	4700	3200				

*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.

Lift Capacities

All values are in kg, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
6.4 m MH (Long)

Stick
4.5 m (drop nose)

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm						mm
10 500 mm	Stabilizers raised – solid tires							5450	5450	4050							5400	5400	4000	6050
	Stabilizers lowered – solid tires							*6000	*6000	*6000							*5900	*5900	*5900	
9000 mm	Stabilizers raised – solid tires							5650	5650	4200	3900	3900	2900				3650	3650	2700	7810
	Stabilizers lowered – solid tires							*8150	*8150	7450	*5950	*5950	5150				*5150	*5150	4800	
7500 mm	Stabilizers raised – solid tires							5650	5650	4200	3950	3950	2950				2900	2900	2100	8970
	Stabilizers lowered – solid tires							*8400	*8400	7450	*7200	*7200	5200				*4800	*4800	3850	
6000 mm	Stabilizers raised – solid tires							5500	5500	4100	3900	3900	2900	2900	2900	2100	2500	2500	1800	9770
	Stabilizers lowered – solid tires							*8650	*8650	7300	7200	7200	5100	5350	5350	3800	4650	4650	3350	
4500 mm	Stabilizers raised – solid tires				8300	8300	6000	5300	5300	3900	3750	3750	2750	2850	2850	2050	2250	2250	1600	10 290
	Stabilizers lowered – solid tires				*11 550	*11 550	11 400	*9050	*9050	7100	7050	7050	5000	5250	5250	3750	4250	4250	3050	
3000 mm	Stabilizers raised – solid tires				7700	7700	5450	5000	5000	3650	3600	3600	2600	2750	2750	2000	2150	2150	1500	10 570
	Stabilizers lowered – solid tires				*12 600	*12 600	10 700	*9450	*9450	6750	6850	6850	4850	5200	5200	3700	4050	4050	2900	
1500 mm	Stabilizers raised – solid tires				7050	7050	4900	4700	4700	3350	3450	3450	2450	2650	2650	1900	2100	2100	1450	10 620
	Stabilizers lowered – solid tires				*12 950	*12 950	10 000	9500	9500	6450	6700	6700	4650	5100	5100	3600	4000	4000	2850	
0 mm	Stabilizers raised – solid tires	*3150	*3150	*3150	6700	6700	4550	4500	4500	3150	3350	3350	2350	2600	2600	1850				
	Stabilizers lowered – solid tires	*3150	*3150	*3150	*10 550	*10 550	9600	*8950	*8950	6200	6550	6550	4550	5000	5000	3500				
–1500 mm	Stabilizers raised – solid tires							4400	4400	3050	3250	3250	2300							
	Stabilizers lowered – solid tires							*7500	*7500	6100	*5850	*5850	4450							

*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.

Lift Capacities

All values are in kg, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
6.4 m MH (Long)

Stick
4.9 m (drop nose)

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm			9000 mm			10 500 mm						mm
12 000 mm	Stabilizers raised – solid tires																			*6950	*6950	*6950	3970
	Stabilizers lowered – solid tires																			*6950	*6950	*6950	
10 500 mm	Stabilizers raised – solid tires							5600	5600	4200										4650	4650	3450	6700
	Stabilizers lowered – solid tires							*6500	*6500	*6500										*5250	*5250	*5250	
9000 mm	Stabilizers raised – solid tires							5750	5750	4300	4000	4000	2950							3350	3350	2450	8320
	Stabilizers lowered – solid tires							*7850	*7850	7550	*6300	*6300	5250							*4650	*4650	4400	
7500 mm	Stabilizers raised – solid tires							5750	5750	4300	4000	4000	3000	2950	2950	2150				2700	2700	2000	9420
	Stabilizers lowered – solid tires							*8150	*8150	7550	*7050	*7050	5250	5400	5400	3900				*4400	*4400	3600	
6000 mm	Stabilizers raised – solid tires							5600	5600	4200	3950	3950	2950	2950	2950	2150				2350	2350	1700	10 180
	Stabilizers lowered – solid tires							*8400	*8400	7450	*7150	*7150	5200	5400	5400	3850				*4300	*4300	3150	
4500 mm	Stabilizers raised – solid tires				8500	8500	6200	5400	5400	4000	3850	3850	2800	2850	2850	2100	2250	2250	1600	2150	2150	1550	10 680
	Stabilizers lowered – solid tires				*11 150	*11 150	*11 150	*8850	*8850	7200	7100	7100	5050	5300	5300	3800	4150	4150	3000	4050	4050	2900	
3000 mm	Stabilizers raised – solid tires	15 400	15 400	10 250	7850	7850	5600	5100	5100	3700	3650	3650	2650	2800	2800	2000	2200	2200	1550	2050	2050	1450	10 940
	Stabilizers lowered – solid tires	*18 550	*18 550	*18 550	*12 350	*12 350	10 900	*9350	*9350	6850	6950	6950	4900	5200	5200	3700	4100	4100	2950	3850	3850	2750	
1500 mm	Stabilizers raised – solid tires				7200	7200	5000	4800	4800	3400	3500	3500	2500	2700	2700	1900	2150	2150	1500	2000	2000	1400	11 000
	Stabilizers lowered – solid tires				*12 950	*12 950	10 150	*9550	*9550	6550	6750	6750	4700	5100	5100	3600	4050	4050	2900	3800	3800	2700	
0 mm	Stabilizers raised – solid tires	*3500	*3500	*3500	6750	6750	4600	4550	4550	3200	3350	3350	2350	2600	2600	1850	2100	2100	1500				
	Stabilizers lowered – solid tires	*3500	*3500	*3500	*12 200	*12 200	9650	*9150	*9150	6250	6550	6550	4550	5000	5000	3550	*4000	*4000	2850				
–1500 mm	Stabilizers raised – solid tires				6550	6550	4450	4400	4400	3050	3250	3250	2300	2550	2550	1800							
	Stabilizers lowered – solid tires				*9600	*9600	9450	*7950	*7950	6100	*6200	*6200	4450	*4650	*4650	3500							

*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, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
VA

Stick
2.8 m

		3000 mm			4500 mm			6000 mm			7500 mm						
	Undercarriage configuration																mm
7500 mm	Stabilizers raised – solid tires													*3200	*3200	*3200	5770
	Stabilizers lowered – solid tires													*3200	*3200	*3200	
6000 mm	Stabilizers raised – solid tires							*5150	*5150	3950				*2850	*2850	*2850	6990
	Stabilizers lowered – solid tires							*5150	*5150	*5150				*2850	*2850	*2850	
4500 mm	Stabilizers raised – solid tires				*6600	*6600	5950	5250	5250	3800	3650	3650	2650	*2750	*2750	2500	7730
	Stabilizers lowered – solid tires				*6600	*6600	*6600	*5850	*5850	*5850	*3900	*3900	*3900	*2750	*2750	*2750	
3000 mm	Stabilizers raised – solid tires				7700	7700	5450	5000	5000	3600	3600	3600	2550	*2750	*2750	2250	8110
	Stabilizers lowered – solid tires				*8350	*8350	*8350	*6500	*6500	*6500	*5500	*5500	4800	*2750	*2750	*2750	
1500 mm	Stabilizers raised – solid tires				7250	7250	5050	4800	4800	3400	3500	3500	2500	*2900	*2900	2150	8190
	Stabilizers lowered – solid tires				*9700	*9700	*9700	*7100	*7100	6550	*5700	*5700	4700	*2900	*2900	*2900	
0 mm	Stabilizers raised – solid tires				6950	6950	4800	4650	4650	3250	3400	3400	2400	3100	3100	2200	7990
	Stabilizers lowered – solid tires				*10 100	*10 100	9900	*7350	*7350	6400	*5650	*5650	4600	*3200	*3200	*3200	
–1500 mm	Stabilizers raised – solid tires	*9050	*9050	8500	6850	6850	4700	4550	4550	3200				3400	3400	2400	7470
	Stabilizers lowered – solid tires	*9050	*9050	*9050	*9550	*9550	*9550	*7000	*7000	6300				*3750	*3750	*3750	
–3000 mm	Stabilizers raised – solid tires	*10 900	*10 900	8650	6900	6900	4750	4600	4600	3250				4100	4100	2900	6550
	Stabilizers lowered – solid tires	*10 900	*10 900	*10 900	*8000	*8000	*8000	*5700	*5700	*5700				*4700	*4700	*4700	

*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. Lift capacity is calculated with VA cylinder completely extracted.

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

Lift Capacities

All values are in kg, bucket cylinder and linkage installed, work tool: none, hydraulic cab riser, with counterweight (4200 kg), heavy lift on.

Load point height | Load over front | Load over rear | Load over side | Load at maximum reach (stick nose/bucket pin)

Undercarriage
MH (2.55 m)

Boom
One-Piece

Stick
3.3 m Industrial

		3000 mm			4500 mm			6000 mm			7500 mm						
	Undercarriage configuration																mm
7500 mm	Stabilizers raised – solid tires													*3400	*3400	*3400	6160
	Stabilizers lowered – solid tires													*3400	*3400	*3400	
6000 mm	Stabilizers raised – solid tires													*3250	*3250	3200	7310
	Stabilizers lowered – solid tires													*3250	*3250	*3250	
4500 mm	Stabilizers raised – solid tires							5600	5600	4200	4050	4050	3050	*3250	*3250	2750	8020
	Stabilizers lowered – solid tires							*5650	*5650	*5650	*4550	*4550	*4550	*3250	*3250	*3250	
3000 mm	Stabilizers raised – solid tires				*8050	*8050	5950	5400	5400	4050	3950	3950	2950	*3350	*3350	2500	8380
	Stabilizers lowered – solid tires				*8050	*8050	*8050	*6450	*6450	*6450	*5600	*5600	5150	*3350	*3350	*3350	
1500 mm	Stabilizers raised – solid tires				7750	7750	5550	5200	5200	3850	3850	3850	2850	3250	3250	2450	8470
	Stabilizers lowered – solid tires				*9750	*9750	*9750	*7250	*7250	6950	*5950	*5950	5050	*3600	*3600	*3600	
0 mm	Stabilizers raised – solid tires	*7000	*7000	*7000	7450	7450	5300	5050	5050	3700	3750	3750	2800	3300	3300	2450	8270
	Stabilizers lowered – solid tires	*7000	*7000	*7000	*10 600	*10 600	10 350	*7750	*7750	6750	*6150	*6150	4950	*4100	*4100	*4100	
–1500 mm	Stabilizers raised – solid tires	*9800	*9800	9050	7300	7300	5150	4950	4950	3600	3700	3700	2750	3550	3550	2650	7770
	Stabilizers lowered – solid tires	*9800	*9800	*9800	*10 500	*10 500	10 200	*7750	*7750	6650	*5950	*5950	4900	*4950	*4950	4700	
–3000 mm	Stabilizers raised – solid tires	*13 450	*13 450	9150	7300	7300	5150	4950	4950	3600				4150	4150	3050	6900
	Stabilizers lowered – solid tires	*13 450	*13 450	*13 450	*9500	*9500	*9500	*7000	*7000	6650				*5800	*5800	5500	
–4500 mm	Stabilizers raised – solid tires	*9900	*9900	9350	*7200	*7200	5250							*5650	*5650	4100	5470
	Stabilizers lowered – solid tires	*9900	*9900	*9900	*7200	*7200	*7200							*5650	*5650	*5650	

*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.

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
  - Roading lights two front, halogen
  - Roading lights two rear, LED
  - Working LED lights, cab mounted (two front and one rear), compatible with Falling Objects Guards
- Main shut-off switch
- Signal/warning horn

ENGINE

- Cat C7.1 ACERT technology engine meets Stage IV emission standards
- Aftertreatment technologies including the Cat Clean Emission Module (Cat CEM) package
- Air filter
- 3000 m 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 ambient cooling capability without de-rate
- Power mode selector
- Electric fuel priming pump
- Capability of running with biodiesel fuel (B20)

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
- Oil cooler
- Quick disconnect couplings
- Separate swing pump
- Electric Pump Control (EPC)
- Boom Lowering Check Valve (BLCV), including overload warning device
- Stick Lowering Check Valve (SLCV)

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

continued on next page

Standard Equipment *(continued)*

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

UNDERCARRIAGE

- Automatic brake and axle lock
- Electronic swing and travel 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
- Cat Electronic Technician capability (ET)
- Counterweight, 3700 kg
- 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·S℠ 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 work tools – selection via monitor
  - Quick coupler circuit and lines for hydraulic quick coupler (both Cat pin grabber and dedicated/CW quick couplers, controlled by a dedicated switch)
- SmartBoom

HYDRAULICS

- Cat BIO HYDO Advanced HEES biodegradable hydraulic oil

FRONT LINKAGE

- VA boom (5260 mm):
  - Digging stick (2500, 2800 mm)
  - Industrial stick (3300 mm)
- One-Piece boom (5350 mm):
  - Digging stick (2500, 2800 mm)
  - Industrial stick (3300 mm)
- Material Handling boom (6400 mm):
  - Drop nose MH stick (4500, 4900 mm)
  - Straight MH stick (4200 mm)
- Material Handling boom (5350 mm):
  - Drop nose MH stick (4500, 4900 mm)
  - Straight MH stick (4200 mm)

ELECTRICAL

- Adjustable travel alarm
- Rotating beacon
- Generator, 15 kW

OPERATOR STATION

- Top/front guards
- Joystick steering
- Advanced joysticks with two proportional sliders
- High pressure auxiliary pedal
- 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, 10 mm)
  - 70/30 split, openable
  - 70/30 split, fixed
    - High impact resistant, and skylight (EN356 P8B, 26 mm)
- Mirrors, electrically adjustable and heated, frame and cab

TIRES

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

UNDERCARRIAGE

- MH 2.55 m undercarriage with four welded outriggers
- MH 2.55 m undercarriage with four welded outriggers and front mounted blade
- Easy Cab Access Package, front
- Easy Cab Access Package, rear

OTHER EQUIPMENT

- Bucket linkages
- Cat Machine Security System
- Counterweight, 4200 kg
- Hydraulic quick coupler
- Maximum speed 20 km/h or 25 km/h*
- Refueling pump with dedicated tray for the hose
- Waste Handling Package, adds a reversing fan and vibrating grill to the cooling protection package
- Advanced Cab Filtration System
- Attachments (see pages 27-28)

*25 km/h not compatible with solid tires

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

AEHQ8093-01
Replaces AEHQ8093
(Europe, Israel)

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.