



CH1400F

MultiDocker®
+

ENGINE OUTPUT: 391 kW
WEIGHT: 115-135 mt
REACH: 23,1-28,0 m

ABOUT US

MultiDocker®

- + 35 years experience of operating terminals and loading/discharging vessels with hydraulic cargo handlers.
- + 35 years experience of developing, designing and manufacturing hydraulic cargo handlers.
- + Partnership with Caterpillar since 1998 & partnership with the major European Caterpillar dealers since 2008
- + MultiDockers products are mainly made of Caterpillar components, complemented with our own innovations that has been developed by many years of experience within the port and terminal industries

CATERPILLAR

- + World leading manufacturer of construction machines and diesel engines.
- + Has developed, designed and manufactured machines for more than 80 years.
- + Dealer network in 200 countries guarantees optimized access of spare parts and service.
- + Every day more than 5 million USD are used for research and development
- + Choosing MultiDocker means that you also choose Caterpillar and your local Caterpillar dealer

Together with Caterpillar, MultiDocker are able to present one of the most modern, efficient and powerful product portfolios in the world! We set the standard for meeting our customers technical needs for the future by continuously developing new designs, testing criteria, improving performance characteristics, and enhancing our service and support offerings!

GUIDING STARS

Our guiding stars are essential when we produce our ultimate cargo handler adapted for loading/discharging vessels and handle goods in terminals and industries.

PERFORMANCE equals high productivity. We believe high productivity is achieved by an efficient cargo handler with maximum uptime. A strong, fast and easily maneuverable cargo handler, reliable Caterpillar components and a well-organized service supplier makes the MultiDocker just that – highly productive.

OPERATORS COMFORT the operator should be able to operate the cargo handler to its maximum capacity in a safe and comfortable environment. In order to do that, the cabin environment must be highly developed; for instance the cabin needs to be stable, comfortable and the control system must allow the operator to feel like the cargo handler is like an extension of his own arms.

ECONOMY the performance and the operators comfort added together equals "economy". We strive to make our customers' overall economy as competitive as possible and to do so we also offer advantageous financing solutions and the Caterpillar certified rebuild program.





A yellow excavator is shown from the side, its arm extended and bucket full of logs. It is loading a large red container. The container has the word 'EXT' visible on its side. The background is a clear blue sky.

EFFICIENCY

UP TO 35% LOWER FUEL CONSUMPTION!

UP TO 50% LESS NO_x EMISSIONS

TIER 4/STAGE 4 FINAL TURBO ENGINES

ENERGY REGENERATION SYSTEM

"UPTIME IS MONEY. DOWNTIME IS COST"

Material handlers from MultiDock are based primarily on tested and well proven Caterpillar components. Meaning, that when you buy a MultiDock you get one of the most reliable cargo handlers on the market. Through the Caterpillar Service network you also get a reliable service wherever you are, 24 x 7 x 365. You get fast access to welltrained service engineers and the right parts. In short, all the parts, services and knowledge you need to keep your machine working hard for you.

- + Service intervals are extended to reduce maintenance costs.
- + Oil sample and pressure ports provide easy checking of machine condition and are standard on every machine.
- + The return filters or capsule filters for the hydraulic system are located beside the hydraulic tank. The filter elements are removable without spilling hydraulic oil.
- + Service points are centrally located with easy access to facilitate routine maintenance.
- + Pilot hydraulic system filter keeps contaminants from the pilot system and is located in the pump compartment.
- + Radial seal main air cleaner with precleaner has double-layered filter element for more efficient filtration. No tools are required to change the element.
- + The water separator removes water from fuel, even when under pressure, and water can be monitored in the cab.

SERVICE

+ PURCHASE

Consider the financing options available as well as day to day operating costs. This is also the time to look at dealer services that can be included in cost of the machine to yield lower equipment owning and operating costs in the long run.

+ 24/7/365 SERVICE

Repair option programs guarantees the costs of repairs up front. Diagnostic programs help you avoid unscheduled repairs.

+ 24/7/365 SPARE PARTS

You will find nearly all parts at your local dealer parts counter. Cat dealer utilize a worldwide computer network to find in-stock parts to minimize machine downtime. You can save money with Cat remanufactured components.

+ OPERATION

Improving operating techniques can boost your profits. Your Cat dealer and MultiDocker have videotapes, literature and other ideas to help you increase the productivity, and offers operator training classes to help maximize the return on your investment.

+ CUSTOMER SUPPORT AGREEMENT

Cat dealers offer a variety of product support agreements, and work with customers to develop a plan to meet specific needs. These plans can cover the entire machine, including attachments, to help protect the customer's investment.

+ CAT EQUIPMENT PROTECTION

Plans Your original Cat® warranty provides months of worry-free operation, but your machines are designed for years of productivity. Fortunately, the cost of unexpected repairs can be controlled—with a Cat Equipment Protection Plan.

+ S.O.S

By enrolling in the S•O•S Services Program, a routine oil sampling interval can be established to build-up a trend of data over time. That trend allows you to compare sample history and more easily identify deviations from the normal trend. This consequently adds value to the data interpretation process with more meaningful recommendations and recommended actions.

+ CATERPILLAR PRODUCT LINK

Product Link is a satellite based system that up load important information about your MultiDocker on the internet. This gives you the possibility to control and evaluate the performance of your machine. It is also an important link between your MultiDocker and your service provider, your local Caterpillar dealer.

+ SERVICEABILITY

The F-series machines offer greatly improved serviceability compared to its predecessors. Routine maintenance points like grease fittings, fuel and oil filters, and fluid taps are conveniently grouped and safely reached behind wide service doors from wide, slip-resistant catwalks. A fuel tank drain cock also simplifies evacuating water and sediment to protect the fuel system, and an integrated fuel level indicator reduces the prospect of overfilling.

DURABILITY & SUSTAINABILITY

FUEL CONSUMPTION

The new F-models consumes to 20 % less fuel while delivering more productivity. Fuel saving features include standard or economy power modes, which allow the operator to match operating speed to application.

E-POWER

MultiDocker offer the E-Power concept, featuring a state of the art electric engine, offers customers a more energy efficient and environmentally friendly way to handle cargo. Electricity is a silent but powerful energy source that also means less emission of smoke, pollutants and sound. The performance of an E-Power machine is equal to our diesel engine. And, savings up to 70% per running hour compared to a diesel engine can be achieved. Choosing E-Power means up-time and low servicecosts. The high quality VEM engine requires less service than an average diesel engine.

ENVIRONMENT

Cat ACERT engines are manufactured to meet the new emissions regulations. The engines use a combination of proven emissions-control technologies, including electronic management of fuel-injection/intake-air systems and Caterpillar-designed exhaust after-treatment systems.

Together with our partner we continue to invest in the research and development of cleaner engines and emissions-reduction technologies to meet the new emission standards, while providing ever-increasing value to our customers.

The Cat NRS is a compact “on-engine” system designed to reduce NOx by up to 50% while minimizing overall installation size. The Cat NRS captures and cools a small quantity of exhaust gas and sends it back into the combustion chamber where it drives down combustion temperatures and reduces NOx emissions.

REGENERATION SYSTEM - HYDRAULICS

The CH1400F features the new Cat Adaptive Control System (ACS) valve that is designed to intelligently manage restrictions and flows. It puts flow exactly where it's needed when it's needed, which means operators will experience much smoother operation, greater efficiency, and lower fuel consumption.

MORE POWERFUL, RELIABLE ENGINE ELECTRONICS

The electronics are more powerful and robust than ever.

Increased feature and connection commonality improve the customer experience and increase quality and reliability. Sealed-over-foam wiring harness adds to reliability – even in the most demanding applications.



FLEXIBILITY Ship to shore,
shore to ship in no time!

Our flexible solutions make you able to load or unload
sawn wood, round timber, chips, pellets, bags, scrap,
rocks, pulpwood, gravel, and several other sorts of
bulk and general cargo.



TOOLS & QUICK RELEASE COUPLING

MultiDock is one of the market's most versatile machines for fast and safe cargo handling. It can be equipped with a variety of tools, customized for different commodities. The quick release coupling facilitates convenient and quick change of tools to handle the different types of goods. Here are some examples:

STEEL

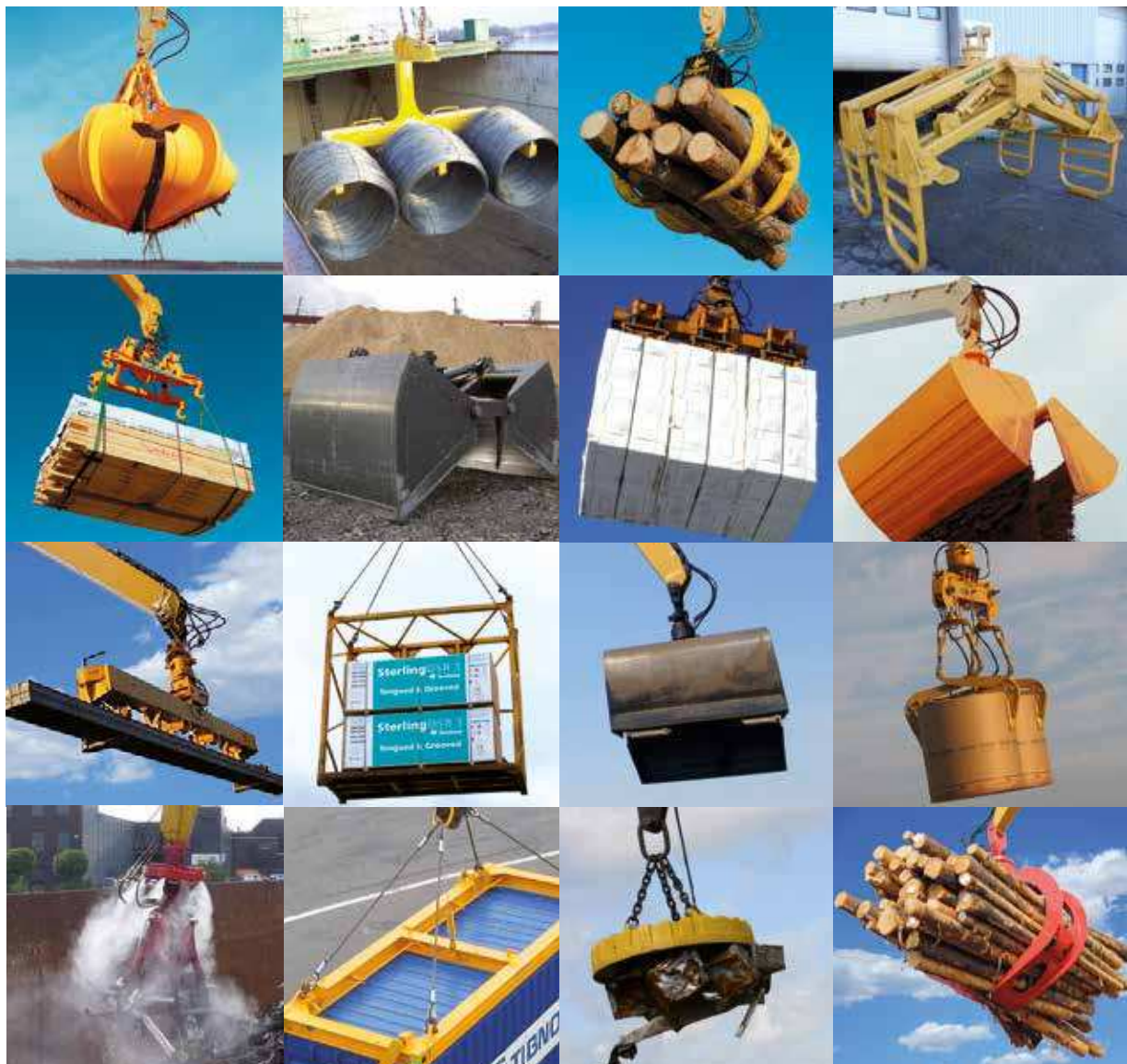
- Steel coil attachments
- Scrap magnets
- Fully automatic billet devices
- Dust controls

FORESTRY

- Fully automatic paper reel attachments
- Timber grabs 1,5-3,6 m²
- Semi automatic lumber spreaders 2-3 units
- Fully automatic paper pulp devices 3-6 units
- Clamshell buckets 2-13 m³

OTHER

- Waste handling clamps
- Orange peel buckets 0,7-10 m³
- Container spreaders
- Clamshell buckets 2-13 m³
- Lifting frames



ONE CARGO HANDLER, MANY POSSIBILITIES!





CH1400F

REACH:	23,1 - 28 m
ENGINE OUTPUT:	391 kW
LIFTING CAPACITY:	22,4 mt
VESSEL SIZE	0-20.000 dwt
OPERATING WEIGHT:	115-135 mt

MULTIDOCKER GETS THE JOB DONE. AND WE LISTEN TO OUR CUSTOMERS. WE THINK BIG BY THINKING OF THE SMALL THINGS, THE LITTLE TOUCHES THAT MAKE ALL THE DIFFERENCE. WE CAN MAKE YOUR MULTIDOCKER WORK JUST THE WAY YOU WANT IT TO, TO DO YOUR JOB. WE NEVER FORGET THAT THE WAY TO MAKE OUR BUSINESS BETTER IS TO MAKE YOUR BUSINESS BETTER.

WITH A CH1400F YOU CAN DO YOUR CARGO HANDLING WITH HALF THE EFFORT AND TWICE THE TURNOVER. WE CAN MAKE YOUR MULTIDOCKER WORK JUST THE WAY YOU WANT IT TO, TO DO YOUR JOB.

THE CH1400 HAS EXCELLENT CONTROL, IMPRESSIVE LIFT CAPACITY, SIMPLIFIED SERVICE AND A COMFORTABLE OPERATOR STATION TO INCREASE YOUR PRODUCTIVITY AND LOWER OPERATING COSTS. THE MULTIDOCKER CH1400F IS A STATE OF THE ART HYDRAULIC CARGO HANDLER.

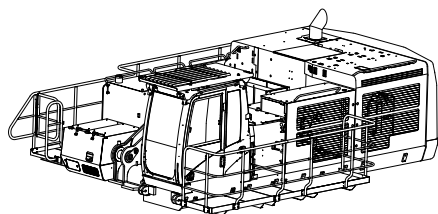
LIFTING CAPACITY EXAMPLES:

Pulp logs	400-650 m³/h
Sawn timber	350-600 m³/h
Wood chips	900-1500 m³/h
Wood pulp	350-650 mt/h
Grain	400-700 mt/h
Gravel	600-1000 mt/h
Scrap	400-700 mt/h



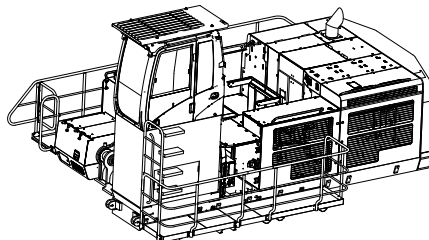
CABIN SOLUTIONS

CABIN STANDARD, CS



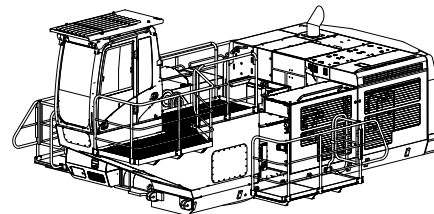
A very simple heavy duty standard solution. Suitable for material handling.

CABIN RAISER, CR



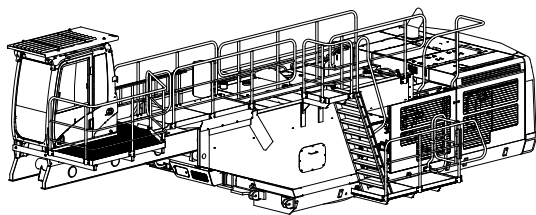
Fixed cabin raiser designed for material handling applications where the view/height is crucial. Raised 1500 mm from standard position.

CABIN FORWARD, CF



Fixed cabin raiser where the cabin is moved forward in a fixed position. Designed for material handling in combination with loading/dischargin vessels where the view into the vessel isn't crucial. Moved 4200 mm from the swing centre.

CABIN MOVABLE, CM



Movable horizontally - 8000 mm from the swing centre. Designed for loading/discharging vessels.

This model gives the operator the possibility to quickly adjust the position of the cabin to optimize the visibility in all situations without cutting back on the comfort. The CM is designed with an unique birder system without joints, which minimize vibrations and strokes efficiently. The horizontal adjustment can be done without stopping ongoing operation by using an ergonomic sliding switch on the joystick. A unique solution on the market!



COMFORT AND CONVINENCE KEEPS PEOPLE PRODUCTIVE

A proper cabin environment generates good comfort and increases efficiency. With four standardized cabin solutions, MultiDockers offer a unique approach to operating comfort. By consulting the customer, we choose the most optimal cabin for each customer's application.

All MultiDockers cabin solutions reflect powerful and exceptional design, which creates a stable and unaffected environment during full production and heavy lifts.

CAB DESCRIPTION

The cabin has been designed to be spacious, quiet and comfortable for the operator, assuring high productivity throughout the entire workday. Switches are conveniently located for easy access. The monitor is located to provide excellent visibility and access. The all-new cab provides you with a safe working environment. It also contributes to your comfort because it's attached to a reinforced frame with special viscous mounts that limit vibration and unnecessary sound. Add in special roof lining and sealing and you have a cab that's as quiet inside as any of today's top pickup trucks.

Seat

The seat range includes air suspension, heated, and air cooled options. All seats include a reclining back, upper and lower slide adjustments, and height and tilt angle adjustments to meet your needs for maximum comfort. Adjustable armrests and a retractable seat belt are also included

Skylight

An enlarged skylight with sunshade provides excellent visibility and good ventilation.

Hydraulic Activation Control Lever

The hydraulic activation control lever deactivates all hydraulic functions during engine start-up, and prevents unintentional machine movements.

Climate Control

The automatic climate control system features multiple air outlets with filtered ventilation to make your work in either hot or cold weather much more pleasant and productive.

Monitor

The monitor is easy to see and navigate. Programmable in up to 42 languages to meet the needs of today's diverse workforce, the monitor clearly displays critical information you need to operate efficiently and effectively. You can even change between the backhoe pattern or cargo handler control pattern right through the monitor. Plus it projects the image from the standard rearview camera to help you see what's going on around you so you can stay safely focused on the job at hand.

The Master Caution Lamp blinks ON and OFF when one of the critical conditions below occurs:

- Engine oil pressure low
- Coolant temperature high
- Hydraulic oil temperature high

Under normal conditions or the default condition, the monitor display screen is divided into four areas: clock and throttle dial, gauge, event display and multi-information display.

Cabin Safety System

The machine is equipped with an electronic safety that controls the load in the machine to avoid overload. The system can also as an option be equipped with motion control which prevents from collision between the cabin and the work tool.

Cab Exterior

The exterior design uses thick steel tubing along the bottom perimeter of the cab, improving resistance fatigue and vibration. The cabin has an overhead protection frame (F.O.P.S = falling object protective system) bolted directly to the top of the cabin.

Cab Mounts

The cabin shell is attached to the frame with viscous rubber cabin mounts, which dampen vibrations and sound levels while enhancing operator comfort.

Windows

To maximise visibility, all glass is affixed directly to the cab. The cabin solution CM8000 has a floor window as standard. This gives the operator the possibility to view the working area underneath the cabin.

Sound

The operator sound level measured according to the procedures specified in ISO 6396:2008.

Controls

Not only can the right and left joystick consoles be adjusted to improve your comfort and productivity during the course of a day, but the joystick levers themselves can be adjusted for gain and response. Gain is the relationship between the control lever stroke and cylinder speed, and response is the time elapsed from the moment the control lever is operated until the cylinder attains speed. The CH1400F has multiple gain and response settings to make the machine respond exactly how you want it to.

Electronic Joysticks

Electronic joysticks provide features not possible with hydraulic pilot valves:

- Eliminate pilot lines in cab for quieter operation
- Adjustable gain/response

STANDARD CAB EQUIPMENT

To enhance operator comfort and productivity, the cab includes a 12V outlet, drink holder, coat hook, service meter, FM Radio, literature holder and a storage compartment.

- Air conditioner, heater and defroster with automatic climate control
- Power supply 24 V
- Console mounted electronic type joystick with adjustable gain and response
- Instrument panel and gauges with full colour graphical display
- Neutral lever (lock out) for all controls
- Positive filtered ventilation
- Pressurised cabin
- Retractable seat belt
- Stationary skylight
- Sunshade for windshield
- Travel control pedals with removable hand levers
- Windshield wipers and washers
- Rear view camera
- FOPS-Falling Object Protective System
- 2KG Fire extinguisher
- First aid kit



PORT LINE CABIN

The Port Line Cabin is an option for the CM and CF cabin solutions.

The Port Line Cabin features a larger interior for increased driver comfort, along with new features:

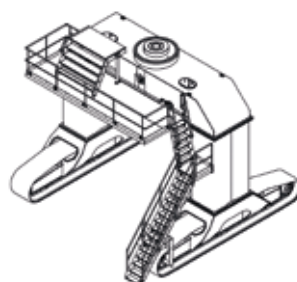
- the large glass surfaces provide excellent panoramic overview
- negative windshield for less reflections and impact from snow and rain
- one extra seat for training sessions
- floor windows for better visibility and a safer operation, floor windows enhance operators precision and contribute to safety for ground personnel
- suspended on six additional rubber bushings – eliminating vibrations
- aluminium frame work for rigid and safe design
- high capacity heating and cooling units
- can be retrofitted (plug and play interface)
- full standing height allows comfortable access to and from operators seat
- plug and play interface with Caterpillar cabin ensures time and cost effective cabin upgrades



UNDERCARRIAGE

MG8000C

The height of 5,0 m allows lorries and railway wagons to safely pass through underneath the machine. This solution saves space at the site and makes the MultiDocker extremely efficient by allowing short swing cycles and the possibility to work in a larger area without having to constantly move the machine.



Technical information	MG8000C
Width – center - center (mm)	6 700
Flat shoes width (mm)	900 - 1 000
Length – center - center (mm)	7 600
Weight incl.crawler tracks (kg)	54 400

SOLUTIONS FOR YOUR NEEDS!

Depending on the customer's needs, the MultiDock CH1400F can be delivered in two standard undercarriage configurations with crawler tracks. Other options are the rail track fitted gantry undercarriage or pedestal. It's also possible to have the cargo handler installed onboard a vessel or a barge.

Due to the unique module system we can tailor the height and width of the undercarriage raiser, the length of the track frames and the width of the flat shoes to meet special requirements in regards of weight, ground loadings, available space at the site etc.

STANDARD UNDERCARRIAGE EQUIPMENT

Sealed and Lubricated Rollers

Track rollers and idlers are sealed and lubricated for excellent service life.

Idler Guards and Track Guides

Idler guards and centre track guides used to maintain alignment are standard.

Track

The MultiDock cargo handler comes with grease lubricated tracks as standard. The track links are assembled and sealed with grease to decrease internal bushing wear, reduce travel noise and extend service life thus lowering operating costs.

Track shoes

The flat shoe's outer edges are curved and chamfered on the outer edges to further smooth transportation as well as prevent unnecessary damages to the ground.

The flat shoe's original total width is up to 1000 mm on the CH1400F. Being such a large material handler, the MultiDock flat shoes cause very little effect to the ground surfaces. Due to the design of the MultiDock bended flat shoes, they are very kind to all types of road surfaces, concrete, blocks or tarmac.

Travel Motor

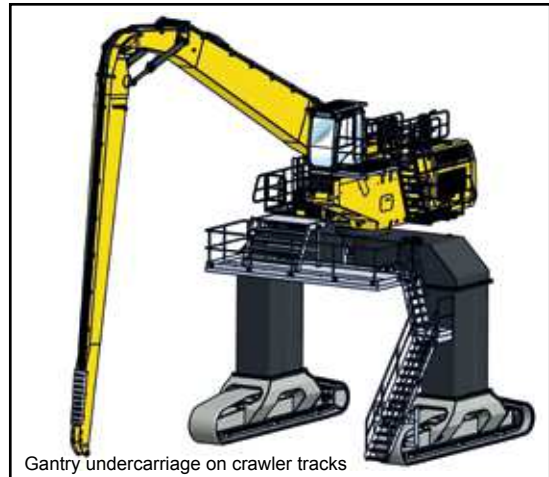
Two-speed axial piston hydraulic motors provide the drive power and automatic speed selection when the high-speed position is selected. This enables the machine to automatically change between computer controlled high and low speeds depending on draw-bar-pull requirements.

Final Drives

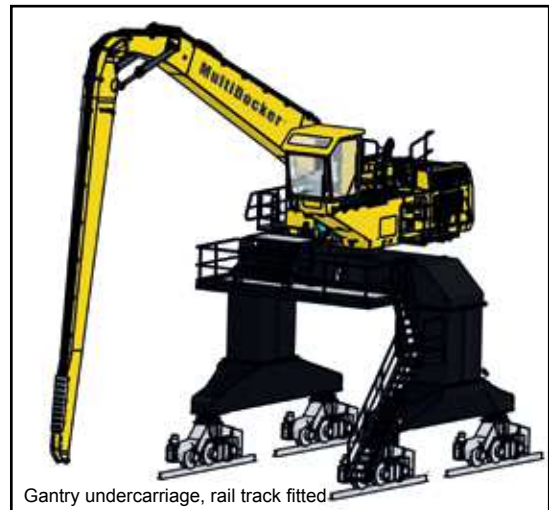
The final drives are the three-stage reduction planetary type. This design provides a complete drive/brake unit that is compact and delivers excellent performance and reliability.

OTHERS

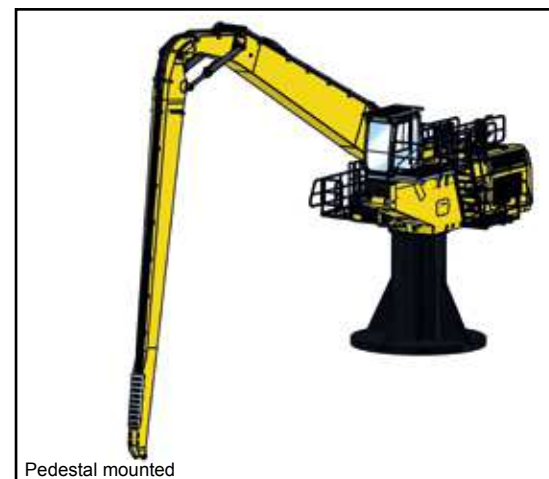
- + Color, black
- + Heavy-duty access service ladders and platforms
- + Footprint width 900 mm
- + Emergency stops, 2 pcs
- + Flashing and acoustic beacons, 2 pcs
- + Power supply to service platform



Gantry undercarriage on crawler tracks



Gantry undercarriage, rail track fitted



Pedestal mounted

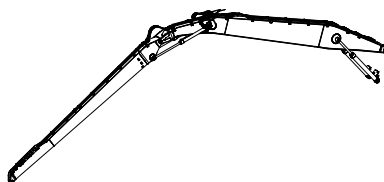


BOOM & STICK

The boom and stick is designed for multi purpose use and can easily handle most different kind of cargoes. As an option we can offer a quick release coupling making the change between different work tools convenient and quick. Due to our unique module design we can tailor the lengths of booms and sticks for special requirements.

The MultiDock CH1400F is offered with four standard boom and stick configurations with a reach ranging from 23,1 m up to 28,0 m excluding work tools.

Total length	Boom (mm)	Stick (mm)
23 100	14 000	11 000
27 000	16 250	12 800
28 000	17 050	13 220



SMARTBOOM

Unloading a barge or a vessel is easier when using SmartBoom. The SmartBoom avoids excessive force being put on the barge tank top by having the weight of the boom and stick weighting down its self and not being forced down by the boom cylinders allowing the operator to fully concentrate on production.

HEAVY DUTY PIPE PROTECTION

The boom and stick is equipped with a heavy duty pipe protection in the end of the stick. It will protect the pipes from being damaged during operation in narrow areas, giving higher availability of the machine and lower maintenance costs.

Standard Equipment

- + Heavy-duty pipe protection
- + LED lights, 4 pcs
- + Lubrication system - automatically lubricates the front end
- + SLCV/BLCV (Stick lowering control valve/Boom lowering control valve)
- + Color, yellow
- + Logotype on boom
- + Shut off valves in the stick end

OPTIONAL EQUIPMENT

- Cold weather starting aid
- Scrap magnet generator
- Extra hydraulic pipe protection for arduous applications
- Hydraulic pipe closure valve cocks
- Quick release couplings
- Heavy duty semi-automatic Multicoupler
- Bio-degradeable hydraulic oil
- Reversible Fan

Fire Protection system

This fire suppression system discharges automatically at a detected fire when the machine is unmanned, i.e. when the main switch is turned off. When the machine is at work with the power on, a detected fire actuates only the alarm signals. The operator should then immediately then stop the operation and turn off the power or operate the extinguishing installation manually. Manual operation can be made from a firing button on the control unit in the cab

Caterpillar MSS Data Sheet

The Caterpillar Machine Security System (MSS) is an on-board system to manage access to your MultiDocker. It has programmable features to allow tailoring the system to fit your needs.

Can be programmed for active/inactive periods.

Can be programmed so individual keys expire on selected date and time. Control access by untrained operators or unauthorized personnel.

Manage access with minimum inconvenience!

Radiation Detecting System

Mounting the Cricket in the grapple allows direct exposure to all the material being handled. The system consist of a detector protective shield, a detection unit, a battery pack and a RC2000 Control Console. Typically, the Cricket grapple mounted radiation detection system is 2.5 times more sensitive than a vehicle monitoring system.

Safety Cameras

Standard for all MultiDockers is the rear view camera. This camera will give the operator a better overview (over the worksite) giving a safer operation. However, for optimal performance your MultiDocker can be equipped with a stick mounted camera giving a perfect view of the material being handled. With the stick mounted camera comes a 7" color monitor reproducing the view perfectly.

Working Lights

MultiDocker CH1400F is equipped with seven working lights. As an option the standard halogen lights can be changed to xenon working lights, giving three times more light than the standard lights, for a safer and more efficient operation. Your MultiDocker can also be equipped with extra work lights on the undercarriage for improved illumination of the working area around the machine.

Heaters

230 V heater for the cabin, engine and hydraulic oil tank are optional. There is also a possibility to choose a diesel driven heater for preheating of the diesel engine and the cabin. This heater has programmable start time and also the possibility to be started on remote by phone.

Extra fuel tank

As an option the MultiDocker CH1400F can be equipped with an extra fuel tank. The extra fuel is placed in the under carriage raiser and has a capacity of 5000 liter, giving the machine many hours availability before refueling is needed.

Caterpillar Product Link

Product Link is a satellite based system that up load important information about your MultiDocker on the internet. This gives you the possibility to control and evaluate the performance of your machine. It is also an important link between your MultiDocker and your service provider, your local Caterpillar dealer.

CABIN

- Weight Scale (excl summarise function.)
- Weight Scale (incl summarise function.)
- Electric Pre-heater 230 V
- Camera for stick incl. LCD display for stick
- Radio with bluetooth

UNDERCARRIAGE

- Customized colors
- Wider flat shoes
- Working light

BOOM & STICK

- Customized colors
- Working light
- Weight scale
- Extra hydraulic function (stick end)

TECHNICAL DATA CH1400F

Base information	Base machine (Caterpillar)	390F MH
	Weight (mt)	118-135
	Maximum reach (m)	28,0
	Maximum lifting capacity (kg)	22 400
	Maximum wind speed in parked position without anchoring	42 m/s
	Maximum wind speed during operation	24 m/s
Engine (diesel)	Model (Caterpillar)	C18 ACERT
	Net power (kW)	391
	Bore (mm)	145
	Stroke (mm)	183
	Piston displacement (l)	18,1
	The CH1400F meets U.S EPA Tier 4 Final / EU4 emission standards	
Engine (E-power*)	Model (VEM)	Electrical engine
	Net power (kW)	350
	Voltage (V); standard 690 V	400–1 000
	Standard ampere (A)	580
	Standard travel distance (m)	150-200
	Power supply	Cable drum/air supply/power duct
Hydraulic system	Max. flow, working pumps (l/min)	980
	Max. flow, swing pump (l/min)	450
	Max. pressure, main circuit (kPa)	35 000
	Travel (kPa)	30 000
	Max. swing (kPa)	32 000
Undercarriage	Crawler tracks	MultiDocker CH1400F
	Track (flat) shoe (foot print) width (mm)	900-1000
	Number of shoes each side	82
	Number of rollers each side	20
	Number of carrier rollers each side	4
	Max. tractive force (kN)	290
	Max. speed (km/h)	3,5
Volumes	Fuel tank (l)	1240
	Cooling system (l)	101
	Engine cranecase (l)	65
	Swing drive – drive (l)	19
	Final drive – each (l)	21
	Hydraulic system incl. tank (l)	997
	Hydraulic tank (l)	813
	Extra fuel tanks (l)	5 200
Weight main components	Base machine incl. swing bearing [kg]	25 500
	Cabin moveable, CM8000 [kg]	3 200
	Cabin forward, CF [kg]	1 800
	Counterweight [kg]	22 500
	Body extension [kg]	16 600
	Platforms [kg]	3 660
	Track frame – each [kg]	16 600
	Boom cylinder – each [kg]	920
	Stick cylinder – each [kg]	568
	Other [kg]	1 600

Engine (diesel)

The Cat C18 engine with mechanically actuated electronic fuel injection (MEUI) powers the CH1400F. The C18 has ACERT® Technology, a series of Caterpillar engineered innovations which provide advanced electronic control, precision fuel delivery and refined air management compliance. ACERT® Technology optimizes engine performance while meeting EU stage 4 / U.S Tier 4 Final emission regulations.

Power

The maximum power is 391 kW. The Power Management System (PMS) is also available to manage productivity and fuel economy.

Improved Fuel Efficiency

The CH1400F consumes significantly less fuel than the previous series model, and two built-in features help contribute to that: automatic engine speed control and automatic engine idle shutdown. Automatic engine speed control lowers rpm when the machine doesn't need it for work. Automatic engine idle shutdown turns the engine off when it's been idling for more than a specified amount of time, which will lower fuel consumption, hour accumulation, and lead to extended service intervals and higher resale value.

Biodiesel

The Cat C18 ACERT engine can run on B20 biodiesel fuel that meets ASTM 6751 standards – all to give you more potential fuel-saving flexibility

Improved Reliability

The titanium-aluminum alloy rotor in the turbocharger improves reliability/durability and contributes to faster response of the turbocharger.

Reversible Fan

A reversible fan option is offered as an attachment. The reverse function is operated through the monitor. By selecting this function, the fan rotates in the opposite direction for a preset time to help clean the cooling package for increased uptime and reduced service cost.

Cooling system

The CH1400F features a new side-by-side cooling system that allows you to put the machine to work in extremely hot and cold conditions. The system is completely separated from the engine compartment to reduce noise and heat. Plus it features easy-to-clean cores and a new variable-speed fan that reverses to blow out unwanted debris that may accumulate during your work day.

Engine (E-power*)

The E-power concept, featuring a state of the art electric engine, offers customers a more energy efficient and environmentally friendly way to handle cargo. The high quality VEM engine requires less service than an average diesel engine - cutting the service time and cost significantly. Utilizing an Emotron frequency converter, the E-power enables the driver to very precisely adjust speed and effect by simply regulating the RPM. E-power has integrated Caterpillar software and hydraulic system - rendering the Caterpillar service network available for customers world wide.

Environment

Emissions

ACERT® Technology is a differentiated technology that reduces emissions at the point of combustion. The technology capitalizes on proven Caterpillar leadership in three core engine systems: fuel, air and electronics.

Electro Magnetic Compliance

The CH1400F meets the following EMC (Electro Magnetic Compliance) requirements: ISO 13766 Earth Moving Machinery – Electro-magnetic compliance EU Directive 89/336/EEC Aus EMC Framework

Fluid Management

Several serviceability elements are designed into the CH1400F to limit fluid spillage while performing routine maintenance.

Ecology Drains

Ecology drains are provided for the fuel and hydraulic tanks, allowing fluids to be captured in a container when draining the tanks.

Service and Maintenance

Service Intervals

Long service intervals reduce maintenance costs. Engine oil, oil filter and fuel filters are at 500 hours.

Oil Sample and Pressure Ports

Oil sample and pressure ports provide easy checking of machine condition and are standard on every machine.

Hydraulic Capsule Filters

The return filters or capsule filters for the hydraulic system are located beside the hydraulic tank. The filter elements are removable without spilling hydraulic oil.

Service Points

Service points are centrally located with easy access to facilitate routine maintenance.

Pilot Hydraulic System Filter

Pilot hydraulic system filter keeps contaminants from the pilot system and is located in the pump compartment.

Remote Greasing Block

A concentrated remote greasing block on the boom delivers grease to hard-to-reach locations.

Radial Seal Cleaner

Radial seal main air cleaner with precleaner has a double-layered filter element for more efficient filtration. No tools are required to change the element.

Fuel-Water Separator

The water separator removes water from fuel, even when under pressure, and the water level can be monitored in the cab.

Hydraulics

Main Pumps

The hydraulic system includes three pumps with an independent swing circuit. The hydraulic circuit utilizes a load-sensing system to ensure high hydraulic system efficiency and excellent productivity with little hydraulic loss. Large, heavy-duty main pumps and a separate swing pump provide quick cycle times during multi-function operation.

Reverse Swing Dampening Valve

Swing dampening valves reduce swing wag and produce smooth swing stops.

Proportional Priority Pressure Compensation (PPPC) Hydraulics

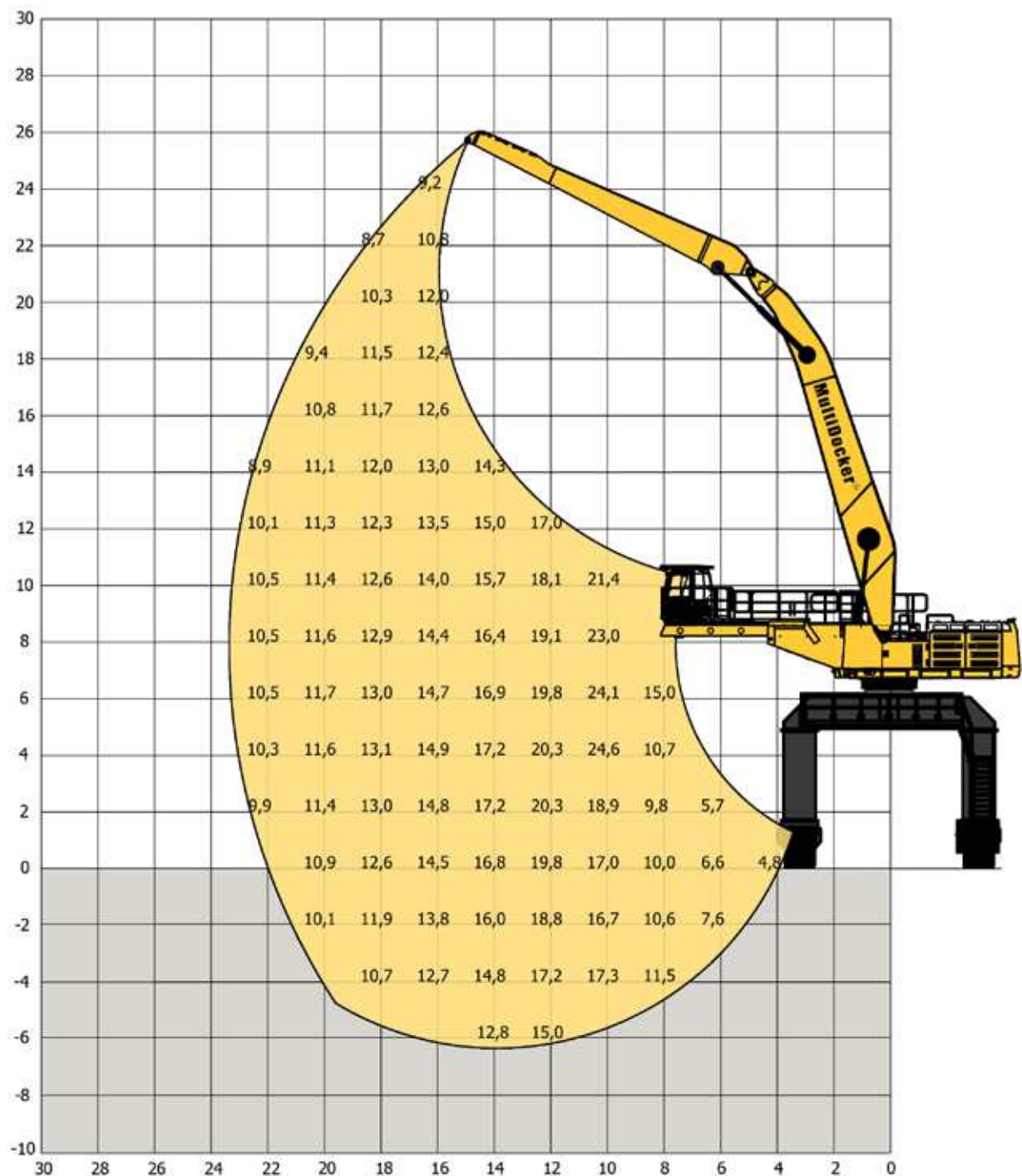
Load-sensing, PPPC system, with Caterpillar-developed electronic actuation, provides high efficiency and excellent controllability. Cylinder speed is directly related to operator's movement of joystick from feathering to full speed. Flow to cylinders during multi-functional operation is directly controlled by the operator and is not dependent on loads.

ACS valve

The valve is designed to intelligently manage restrictions and flows. It opens slowly when your range of joystick lever movement is small and opens rapidly when movement is high. It puts flow exactly where you need it when you need it, which means you will experience much smoother operation, greater efficiency, and lower fuel consumption. The ACS valve also has a new automatic hydraulic oil warm-up function – a definite plus in putting your machine to work more quickly in cold weather conditions.

LIFTING DIAGRAMS

23,1 m



Lifting capacity table, unit tonne = 1.000 kg

The lifting capacities are measured at 360° in the stick end-joint. The above values have been calculated in compliance with ISO 10567:2007. They do not exceed 87% of the hydraulic lifting capacity or 75% of the tipping load, with the machine on firm, level ground.

SPECIFICATIONS

Front end: 23,1 m

Boom: 14,0 m

Stick: 11,0 m

Cabin: Standard

Cabin solution: CM8000

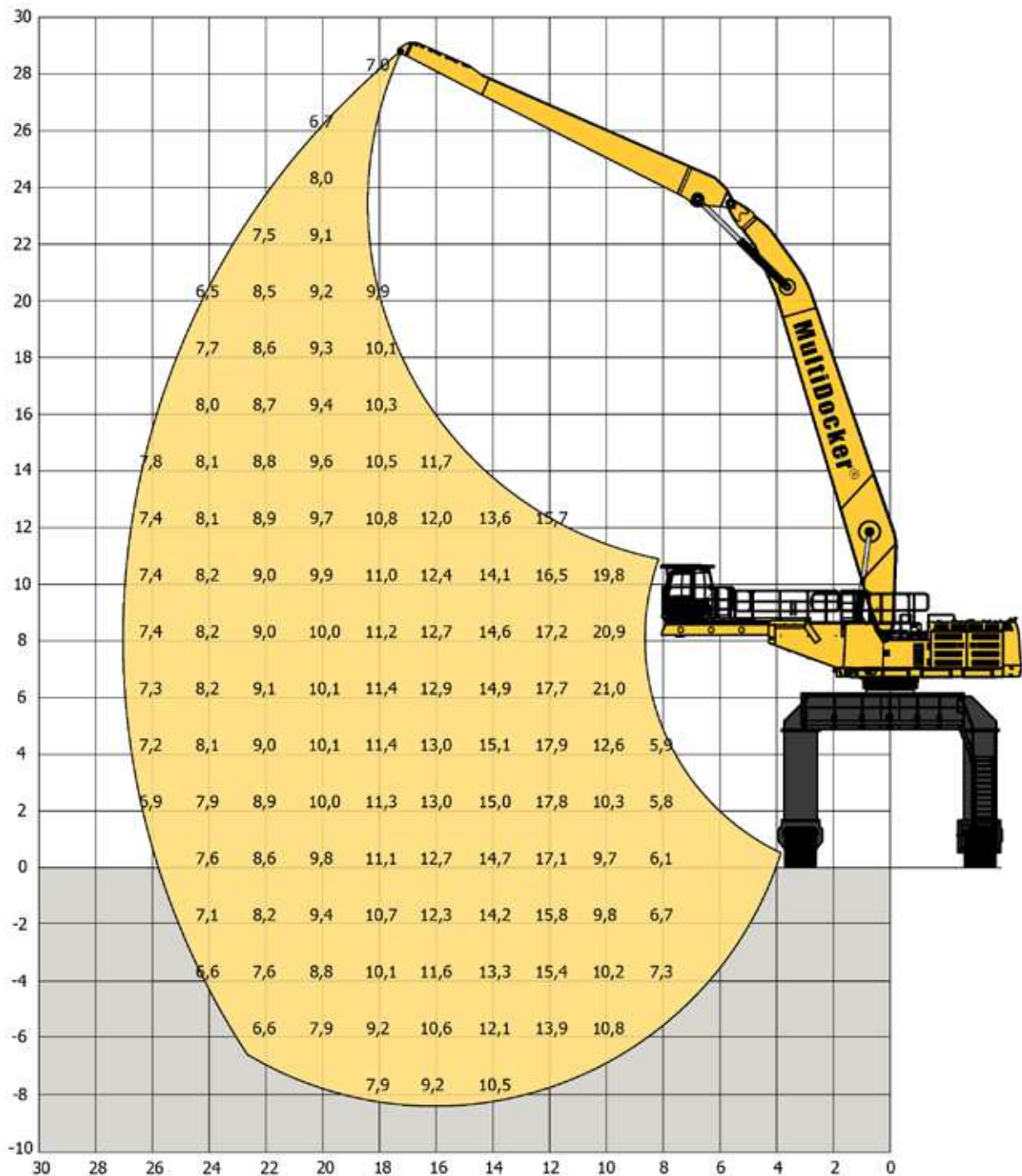
Eye level: 10 m

Undercarriage: MG8000C

Type: Track based

Height: 6,7 m

27,0 m



Lifting capacity table, unit tonne = 1.000 kg

The lifting capacities are measured at 360° in the stick end-joint. The above values have been calculated in compliance with ISO 10567:2007. They do not exceed 87% of the hydraulic lifting capacity or 75% of the tipping load, with the machine on firm, level ground.

SPECIFICATIONS

Front end: 27,0 m

Boom: 16,25 m

Stick: 12,8 m

Cabin: Standard

Cabin solution: CM8000

Eye level: 10 m

Undercarriage: MG8000C

Type: Track based

Height: 6,7 m

SAFETY

SAFETY DETAILS

The MultiDocker CH1400F is equipped with sturdy galvanised steel access ladders, walkways and platforms all complete with strong handrails. Safety gates are fitted to platforms for improved safety.

In case of emergency/engine stop when operating it is fully possible to leave the machine by using the standard access route from the cab to the platforms and ladders then to ground. If the machine is rotated so that normal access routes cannot be used it is possible to use the emergency ladder located behind the cab to reach the service platform. This safety feature makes MultiDocker unique on the market.

1. Fire-extinguisher and emergency hammer (placed inside the cab).
2. Fire-extinguisher (one on each side).
3. Emergency ladder.
4. Flashing beacons when in travel mode (2 pieces).
5. Emergency stop (2 pieces), one placed on the access stair from ground level to platform, the second placed on the rear left portal leg.
6. Travelling alarm (acoustic, not marked in the picture).
7. Fire protection system (optional, not marked in the picture).

OVERLOAD PROTECTION SYSTEM

The machines lifting capacity values have been calculated in compliance with ISO 10567:2007.

The capacities do not exceed 87% of the Hydraulic capability and 75% of the tipping load with the machine on a firm and level ground. In the case of an overload situation the protection system will not allow the dipper arm stick to move outwards therefore preventing an overload in the boom cylinders and uncontrolled lowering of the arm.

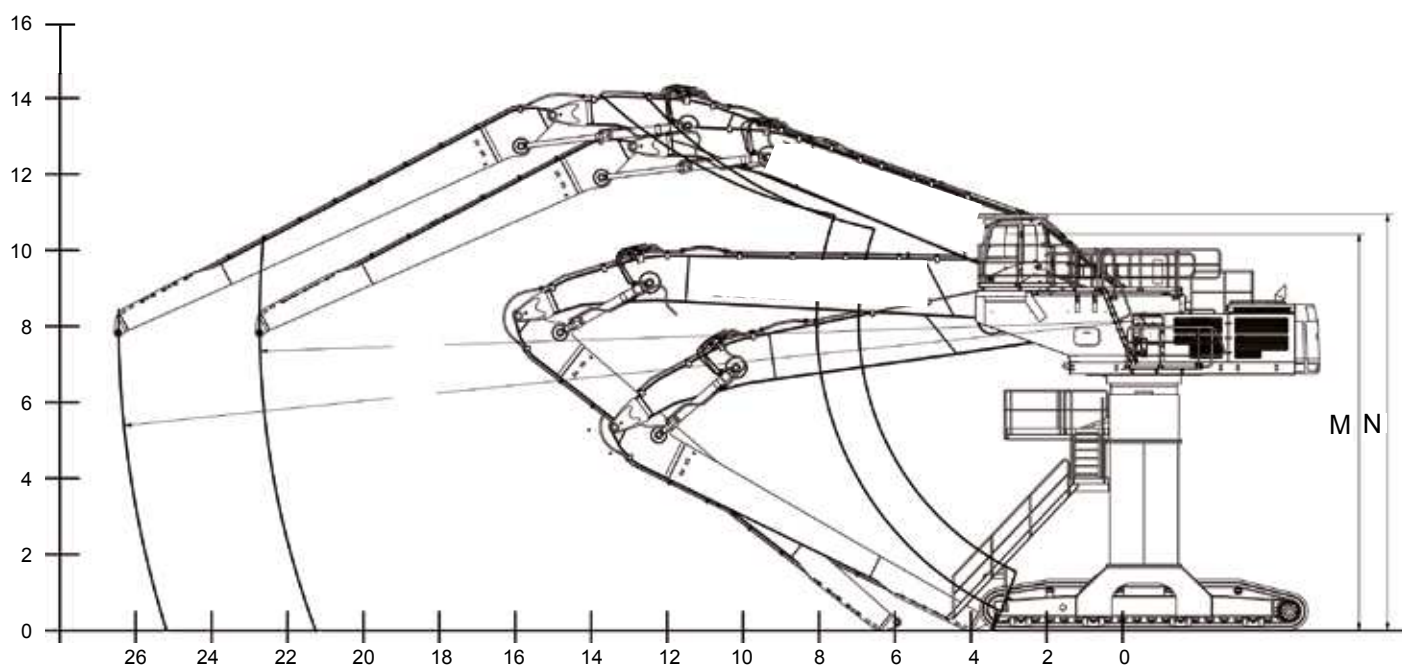
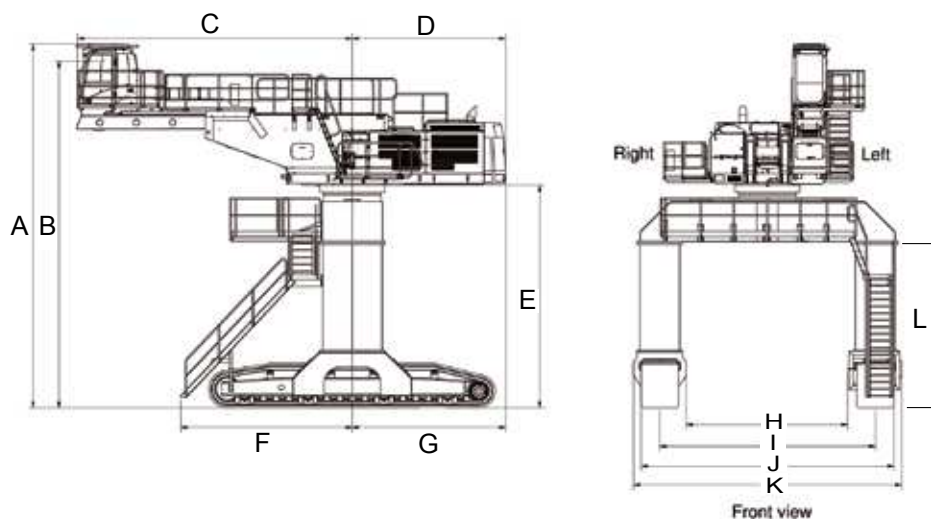
CABIN SAFETY SYSTEM

The machine is equipped with an electronic safety system with motion control. The system can as an option prevent from collision between the cabin and the work tool. The system also controls the load in the machine to avoid overload



DIMENSIONS

UNDERCARRIAGE MG8000C CM8000



A	11200 mm	H	5000 mm
B	10400 mm	I	6700 mm
C	8300 mm	J	7800 mm
D	4800 mm	K	8300 mm
E	6700 mm	L	5000 mm
F	5100 mm	M	10400 mm
G	4800 mm	N	11200 mm

Values are approximate.

CH1400FL

REACH:	23,1 - 28 m
ENGINE OUTPUT:	391 kW
LIFTING CAPACITY:	22,4 mt
VESSEL SIZE	0-20.000 dwt
OPERATING WEIGHT:	115-120 mt

WE DIDN'T INVENT THE MULTIDOCKER AND START THE COMPANY TO MAKE MONEY. WE INVENTED THE MULTIDOCKER TO DO A JOB, FOR US. BECAUSE WE WERE DOCK-OPERATORS OURSELVES, WE KNEW JUST WHAT'S NEEDED. WE SAT DOWN AND SAID TO OURSELVES: IF WE COULD INVENT EXACTLY THE RIGHT MACHINES TO DO THE JOBS WE NEED, WHAT WOULD IT LOOK LIKE? HOW WOULD IT WORK?

AND WITH A LONG PROCESS OF EXPERIMENTATION, WE DEvised THE MULTIDOCKER CH - A MACHINE THAT'S MOSTLY STANDARD, TRIED- AND-TESTED, ULTRA-RELIABLE CATERPILLAR COMPONENTS. WE WANTED HIGH EFFICIENCY, FAST PERFORMANCE, FAULTLESS RELIABILITY, HIGH MACHINE AVAILABILITY AND A LONG LOW-COST WORKING LIFE. SO WE BUILT IT, AND IT WORKED. OVER THE YEARS WE HAVE DEVELOPED THE PRODUCTS FURTHER AND INCREASED OUR PORTFOLIO. A RESULT OF OUR DEVELOPMENT IS THE CH1400FL.

THE CH1400FL IS BUILT TO KEEP YOUR PRODUCTION UP AND YOUR COSTS DOWN. THE MACHINE'S C18 ACERT ENGINE MEET THE TIER 4 FINAL EMISSION STANDARDS, WHILE GIVING YOU ALL THE POWER, FUEL EFFICIENCY, AND RELIABILITY YOU NEED TO SUCCEED. REAL POWER AND ADVANCED HYDRAULICS ALLOW YOU TO MOVE TONS OF GOODS ALL DAY LONG WITH A GREAT DEAL OF SPEED, PRECISION, AND EFFICIENCY. IN FACT, THE HYDRAULIC SYSTEM AND ENGINE TEAM TOGETHER TO KEEP FUEL CONSUMPTION TO AN ABSOLUTE MINIMUM – WITH ZERO IMPACT ON YOUR PRODUCTIVITY. THE SERVICE POINTS ARE DESIGNED TO MAKE ROUTINE MAINTENANCE QUICK AND EASY. WELCOME TO READ MORE ABOUT THE CH1400L ON FOLLOWING PAGES!

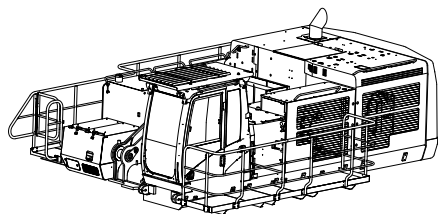






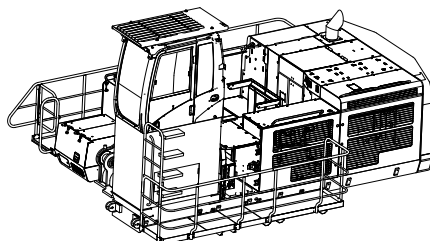
CABIN SOLUTIONS

CABIN STANDARD, CS



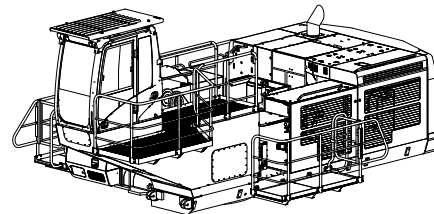
A very simple heavy duty standard solution.
Suitable for material handling.

CABIN RAISER, CR



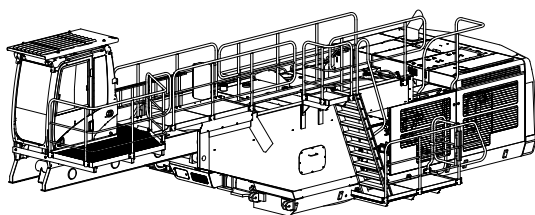
Fixed cabin raiser designed for material handling applications where the view/height is crucial. Raised 1500 mm from standard position.

CABIN FORWARD, CF



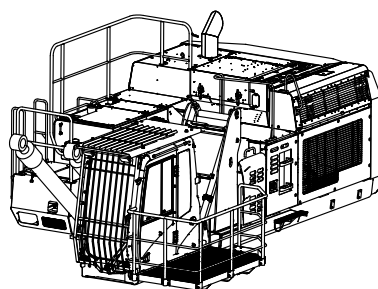
Fixed cabin raiser where the cabin is moved forward in a fixed position. Designed for material handling in combination with loading/dischargin vessels where the view into the vessel isn't crucial. Moved 4200 mm from the swing centre.

CABIN MOVABLE, CM



Movable horizontally - 8000 mm from the swing centre.
Designed for loading/discharging vessels.
This model gives the operator the possibility to quickly adjust the position of the cabin to optimize the visibility in all situations without cutting back on the comfort. The CM is designed with an unique birder system without joints, which minimize vibrations and strokes efficiently. The horizontal adjustment can be done without stopping ongoing operation by using an ergonomic sliding switch on the joystick.
A unique solution on the market!

CABIN ELEVATOR INDUSTRIAL, CEI



Hydraulic elevated. Designed for material handling on low built machines where the visibility is crucial.

CAB DESCRIPTION

The cabin has been designed to be spacious, quiet and comfortable for the operator, assuring high productivity throughout the entire workday. Switches are conveniently located for easy access. The monitor is located to provide excellent visibility and access. The all-new cab provides you with a safe working environment. It also contributes to your comfort because it's attached to a reinforced frame with special viscous mounts that limit vibration and unnecessary sound. Add in special roof lining and sealing and you have a cab that's as quiet inside as any of today's top pickup trucks.

Seat

The seat range includes air suspension, heated, and air cooled options. All seats include a reclining back, upper and lower slide adjustments, and height and tilt angle adjustments to meet your needs for maximum comfort. Adjustable armrests and a retractable seat belt are also included

Skylight

An enlarged skylight with sunshade provides excellent visibility and good ventilation.

Hydraulic Activation Control Lever

The hydraulic activation control lever deactivates all hydraulic functions during engine start-up, and prevents unintentional machine movements.

Climate Control

The automatic climate control system features multiple air outlets with filtered ventilation to make your work in either hot or cold weather much more pleasant and productive.

Monitor

The monitor is easy to see and navigate. Programmable in up to 42 languages to meet the needs of today's diverse workforce, the monitor clearly displays critical information you need to operate efficiently and effectively. You can even change between the backhoe pattern or cargo handler control pattern right through the monitor. Plus it projects the image from the standard rearview camera to help you see what's going on around you so you can stay safely focused on the job at hand.

The Master Caution Lamp blinks ON and OFF when one of the critical conditions below occurs:

- Engine oil pressure low
- Coolant temperature high
- Hydraulic oil temperature high

Under normal conditions or the default condition, the monitor display screen is divided into four areas: clock and throttle dial, gauge, event display and multi-information display.

Cabin Safety System

The machine is equipped with an electronic safety that controls the load in the machine to avoid overload. The system can also as an option be equipped with motion control which prevents from collision between the cabin and the work tool.

Cab Exterior

The exterior design uses thick steel tubing along the bottom perimeter of the cab, improving resistance fatigue and vibration. The cabin has an overhead protection frame (F.O.P.S = falling object protective system) bolted directly to the top of the cabin.

Cab Mounts

The cabin shell is attached to the frame with viscous rubber cabin mounts, which dampen vibrations and sound levels while enhancing operator comfort.

Windows

To maximise visibility, all glass is affixed directly to the cab. The cabin solution CM8000 has a floor window as standard. This gives the operator the possibility to view the working area underneath the cabin.

Sound

The operator sound level measured according to the procedures specified in ISO 6396:2008.

Controls

Not only can the right and left joystick consoles be adjusted to improve your comfort and productivity during the course of a day, but the joystick levers themselves can be adjusted for gain and response. Gain is the relationship between the control lever stroke and cylinder speed, and response is the time elapsed from the moment the control lever is operated until the cylinder attains speed. The CH1400FL has multiple gain and response settings to make the machine respond exactly how you want it to.

Electronic Joysticks

Electronic joysticks provide features not possible with hydraulic pilot valves:

- Eliminate pilot lines in cab for quieter operation
- Adjustable gain/response

STANDARD CAB EQUIPMENT

To enhance operator comfort and productivity, the cab includes a 12V outlet, drink holder, coat hook, service meter, FM Radio, literature holder and a storage compartment.

- Air conditioner, heater and defroster with automatic climate control
- Power supply 24 V
- Console mounted electronic type joystick with adjustable gain and response
- Instrument panel and gauges with full colour graphical display
- Neutral lever (lock out) for all controls
- Positive filtered ventilation
- Pressurised cabin
- Retractable seat belt
- Stationary skylight
- Sunshade for windshield
- Travel control pedals with removable hand levers
- Windshield wipers and washers
- Rear view camera
- FOPS-Falling Object Protective System
- 2KG Fire extinguisher
- First aid kit



PORT LINE CABIN

The Port Line Cabin is an option for the CM and CF cabin solutions.

The Port Line Cabin features a larger interior for increased driver comfort, along with new features:

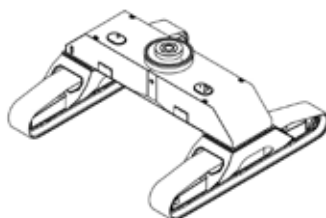
- the large glass surfaces provide excellent panoramic overview
- negative windshield for less reflections and impact from snow and rain
- one extra seat for training sessions
- floor windows for better visibility and a safer operation, floor windows enhance operators precision and contribute to safety for ground personnel
- suspended on six additional rubber bushings – eliminating vibrations
- aluminium frame work for rigid and safe design
- high capacity heating and cooling units
- can be retrofitted (plug and play interface)
- full standing height allows comfortable access to and from operators seat
- plug and play interface with Caterpillar cabin ensures time and cost effective cabin upgrades



UNDERCARRIAGES

MG4800C

A lower undercarriage configuration offer a versatile performance for cargo handling. A great option at terminals or at ports affected by the tide.



Technical information	MG4800C
Width – center - center (mm)	6 700
Flat shoes width (mm))	900 - 1 000
Length – center - center (mm)	7 600
Weight incl.crawler tracks (kg)	45 900

MG3100C

Our lowest undercarriage configuration offer a versatile performance for cargo handling. A great option at terminals or industries.



Technical information	MG3100C
Width – center - center (mm)	6 100
Flat shoes width (mm))	900 - 1 000
Length – center - center (mm)	7 600
Weight incl.crawler tracks (kg)	37 900

SOLUTIONS FOR YOUR NEEDS!

Depending on the customer's needs, the MultiDocker CH1400FL can be delivered in two standard undercarriage configurations with crawler tracks. Other options are the rail track fitted gantry undercarriage or pedestal. It's also possible to have the cargo handler installed onboard a vessel or a barge.

Due to the unique module system we can tailor the height and width of the undercarriage raiser, the length of the track frames and the width of the flat shoes to meet special requirements in regards of weight, ground loadings, available space at the site etc.

STANDARD UNDERCARRIAGE EQUIPMENT

Sealed and Lubricated Rollers

Track rollers and idlers are sealed and lubricated for excellent service life.

Idler Guards and Track Guides

Idler guards and centre track guides used to maintain alignment are standard.

Track

The MultiDocker cargo handler comes with grease lubricated tracks as standard. The track links are assembled and sealed with grease to decrease internal bushing wear, reduce travel noise and extend service life thus lowering operating costs.

Track shoes

The flat shoe's outer edges are curved and chamfered on the outer edges to further smooth transportation as well as prevent unnecessary damages to the ground.

The flat shoe's original total width is up to 1000 mm on the CH1400FL. Being such a large material handler, the MultiDocker flat shoes cause very little effect to the ground surfaces. Due to the design of the MultiDocker bended flat shoes, they are very kind to all types of road surfaces, concrete, blocks or tarmac.

Travel Motor

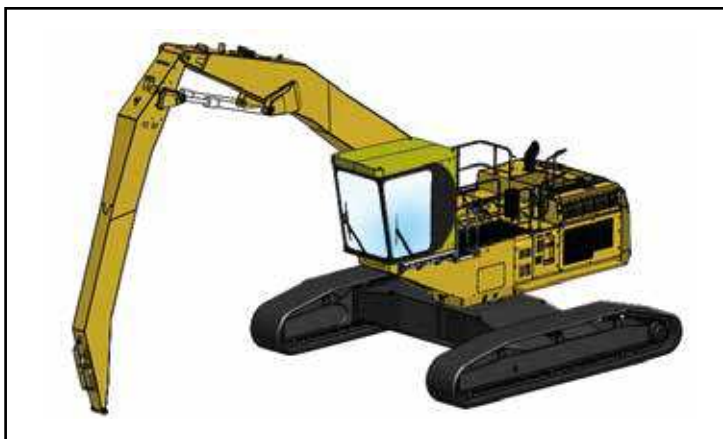
Two-speed axial piston hydraulic motors provide the drive power and automatic speed selection when the high-speed position is selected. This enables the machine to automatically change between computer controlled high and low speeds depending on drawbar-pull requirements.

Final Drives

The final drives are the three-stage reduction planetary type. This design provides a complete drive/brake unit that is compact and delivers excellent performance and reliability.

OTHERS

- + Color, black
- + Heavy-duty access service ladders and platforms
- + Footprint width 900 mm
- + Emergency stops, 2 pcs
- + Flashing and acoustic beacons, 2 pcs
- + Power supply to service platform



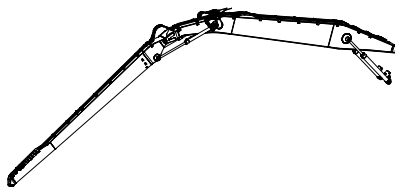


BOOM & STICK

The boom and stick is designed for multi purpose use and can easily handle most different kind of cargoes. As an option we can offer a quick release coupling making the change between different work tools convenient and quick. Due to our unique module design we can tailor the lengths of booms and sticks for special requirements.

The MultiDock CH1400FL is offered with two standard boom and stick configurations with a reach ranging from 23,1 m up to 28,0 m excluding work tools. The reach of 28 m gives the possibility to handle ships up to 20 000 DWT with great efficiency.

Total length	Boom (mm)	Stick (mm)
23 100	14 000	11 000
27 000	16 250	12 800
28 000	17 050	13 220



SMARTBOOM

Unloading a barge or a vessel is easier when using SmartBoom. The SmartBoom avoids excessive force being put on the barge tank top by having the weight of the boom and stick weighting down its self and not being forced down by the boom cylinders allowing the operator to fully concentrate on production.

HEAVY DUTY PIPE PROTECTION

The boom and stick is equipped with a heavy duty pipe protection in the end of the stick. It will protect the pipes from being damaged during operation in narrow areas, giving higher availability of the machine and lower maintenance costs.

Standard Equipment

- + Heavy-duty pipe protection
- + LED lights, 4 pcs
- + Lubrication system - automatically lubricates the front end
- + SLCV/BLCV (Stick lowering control valve/Boom lowering control valve)
- + Color, yellow
- + Logotype on boom
- + Shut off valves in the stick end

Optional equipment

- + Customized colors
- + Reinforced LED working lights
- + Weight scale
- + Extra hydraulic function (stick end)

OPTIONAL EQUIPMENT

- Cold weather starting aid
- Scrap magnet generator
- Extra hydraulic pipe protection for arduous applications
- Hydraulic pipe closure valve cocks
- Quick release couplings
- Heavy duty semi-automatic Multicoupler
- Bio-degradeable hydraulic oil
- Reversible Fan

Fire Protection system

This fire suppression system discharges automatically at a detected fire when the machine is unmanned, i.e. when the main switch is turned off. When the machine is at work with the power on, a detected fire actuates only the alarm signals. The operator should then immediately then stop the operation and turn off the power or operate the extinguishing installation manually. Manual operation can be made from a firing button on the control unit in the cab

Caterpillar MSS Data Sheet

The Caterpillar Machine Security System (MSS) is an on-board system to manage access to your MultiDocker. It has programmable features to allow tailoring the system to fit your needs.

Can be programmed for active/inactive periods.

Can be programmed so individual keys expire on selected date and time. Control access by untrained operators or unauthorized personnel.

Manage access with minimum inconvenience!

Radiation Detecting System

Mounting the Cricket in the grapple allows direct exposure to all the material being handled. The system consist of a detector protective shield, a detection unit, a battery pack and a RC2000 Control Console. Typically, the Cricket grapple mounted radiation detection system is 2.5 times more sensitive than a vehicle monitoring system.

Safety Cameras

Standard for all MultiDockers is the rear view camera. This camera will give the operator a better overview (over the worksite) giving a safer operation. However, for optimal performance your MultiDocker can be equipped with a stick mounted camera giving a perfect view of the material being handled. With the stick mounted camera comes a 7" color monitor reproducing the view perfectly.

Working Lights

MultiDocker CH1400FL is equipped with seven working lights. As an option the standard halogen lights can be changed to xenon working lights, giving three times more light than the standard lights, for a safer and more efficient operation. Your MultiDocker can also be equipped with extra work lights on the undercarriage for improved illumination of the working area around the machine.

Heaters

230 V heater for the cabin, engine and hydraulic oil tank are optional. There is also a possibility to choose a diesel driven heater for preheating of the diesel engine and the cabin. This heater has programmable start time and also the possibility to be started on remote by phone.

Extra fuel tank

As an option the MultiDocker CH1400FL can be equipped with an extra fuel tank. The extra fuel is placed in the under carriage raiser and has a capacity of 5000 liter, giving the machine many hours availability before refueling is needed.

Caterpillar Product Link

Product Link is a satellite based system that up load important information about your MultiDocker on the internet. This gives you the possibility to control and evaluate the performance of your machine. It is also an important link between your MultiDocker and your service provider, your local Caterpillar dealer.

CABIN

- Weight Scale (excl summarise function.)
- Weight Scale (incl summarise function.)
- Electric Pre-heater 230 V
- Camera for stick incl. LCD display for stick
- Radio with bluetooth

UNDERCARRIAGE

- Customized colors
- Wider flat shoes
- Working light

BOOM & STICK

- Customized colors
- Working light
- Weight scale
- Extra hydraulic function (stick end)

TECHNICAL DATA CH1400FL

Undercarriage MG4800C

Base information	Base machine (Caterpillar)	390F MH
	Weight (mt)	115-120
	Maximum reach (m)	27,0
	Maximum lifting capacity (kg)	22 400
	Maximum wind speed in parked position without anchoring	42 m/s
	Maximum wind speed during operation	24 m/s
Engine (diesel)	Model (Caterpillar)	C18 ACERT
	Net power (kW)	391
	Bore (mm)	145
	Stroke (mm)	183
	Piston displacement (l)	18,1
Engine (E-power*)	Model (VEM)	Electrical engine
	Net power (kW)	350
	Voltage (V); standard 690 V	400–1 000
	Standard ampere (A)	580
	Standard travel distance (m)	150-200
	Power supply	Cable drum/air supply/power duct
Hydraulic system	Max. flow, working pumps (l/min)	980
	Max. flow, swing pump (l/min)	450
	Max. pressure, main circuit (kPa)	35 000
	Travel (kPa)	30 000
	Max. swing (kPa)	32 000
Undercarriage	Crawler tracks	MultiDocker CH1400F
	Track (flat) shoe (foot print) width (mm)	900-1000
	Number of shoes each side	82
	Number of rollers each side	20
	Number of carrier rollers each side	4
	Max. tractive force (kN)	290
	Max. speed (km/h)	3,5
Volumes	Fuel tank (l)	1240
	Cooling system (l)	101
	Engine crancase (l)	65
	Swing drive – drive (l)	19
	Final drive – each (l)	21
	Hydraulic system incl. tank (l)	997
	Hydraulic tank (l)	813
	Extra fuel tanks (l)	5 200
Weight main components	Base machine incl. swing bearing [kg]	25 500
	Cabin moveable, CM8000 [kg]	3 200
	Cabin CF [kg]	1 800
	Counterweight [kg]	22 500
	Body extension [kg]	13 300
	Platforms [kg]	3 660
	Track frame – each [kg]	16 600
	Boom cylinder – each [kg]	920
	Stick cylinder – each [kg]	568
	Other [kg]	1 600

Engine (diesel)

The Cat C18 engine with mechanically actuated electronic fuel injection (MEUI) powers the CH1400FL. The C18 has ACERT® Technology, a series of Caterpillar engineered innovations which provide advanced electronic control, precision fuel delivery and refined air management compliance. ACERT® Technology optimizes engine performance while meeting EU stage 4 / U.S Tier 4 Final emission regulations.

Power

The maximum power is 391 kW. The Power Management System (PMS) is also available to manage productivity and fuel economy.

Improved Fuel Efficiency

The CH1400FL consumes significantly less fuel than the previous series model, and two built-in features help contribute to that: automatic engine speed control and automatic engine idle shutdown. Automatic engine speed control lowers rpm when the machine doesn't need it for work. Automatic engine idle shutdown turns the engine off when it's been idling for more than a specified amount of time, which will lower fuel consumption, hour accumulation, and lead to extended service intervals and higher resale value.

Biodiesel

The Cat C18 ACERT engine can run on B20 biodiesel fuel that meets ASTM 6751 standards – all to give you more potential fuel-saving flexibility

Improved Reliability

The titanium-aluminum alloy rotor in the turbocharger improves reliability/durability and contributes to faster response of the turbocharger.

Reversible Fan

A reversible fan option is offered as an attachment. The reverse function is operated through the monitor. By selecting this function, the fan rotates in the opposite direction for a preset time to help clean the cooling package for increased uptime and reduced service cost.

Cooling system

The CH1400FL features a new side-by-side cooling system that allows you to put the machine to work in extremely hot and cold conditions. The system is completely separated from the engine compartment to reduce noise and heat. Plus it features easy-to-clean cores and a new variable-speed fan that reverses to blow out unwanted debris that may accumulate during your work day.

Engine (E-power*)

The E-power concept, featuring a state of the art electric engine, offers customers a more energy efficient and environmentally friendly way to handle cargo. The high quality VEM engine requires less service than an average diesel engine - cutting the service time and cost significantly. Utilizing an Emotron frequency converter, the E-power enables the driver to very precisely adjust speed and effect by simply regulating the RPM. E-power has integrated Caterpillar software and hydraulic system - rendering the Caterpillar service network available for customers world wide.

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Fluid Management

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Ecology Drains

Ecology drains are provided for the fuel and hydraulic tanks, allowing fluids to be captured in a container when draining the tanks.

Service and Maintenance

Service Intervals

Long service intervals reduce maintenance costs. Engine oil, oil filter and fuel filters are at 500 hours.

Oil Sample and Pressure Ports

Oil sample and pressure ports provide easy checking of machine condition and are standard on every machine.

Hydraulic Capsule Filters

The return filters or capsule filters for the hydraulic system are located beside the hydraulic tank. The filter elements are removable without spilling hydraulic oil.

Service Points

Service points are centrally located with easy access to facilitate routine maintenance.

Pilot Hydraulic System Filter

Pilot hydraulic system filter keeps contaminants from the pilot system and is located in the pump compartment.

Remote Greasing Block

A concentrated remote greasing block on the boom delivers grease to hard-to-reach locations.

Radial Seal Cleaner

Radial seal main air cleaner with precleaner has a double-layered filter element for more efficient filtration. No tools are required to change the element.

Fuel-Water Separator

The water separator removes water from fuel, even when under pressure, and the water level can be monitored in the cab.

Hydraulics

Main Pumps

The hydraulic system includes three pumps with an independent swing circuit. The hydraulic circuit utilizes a load-sensing system to ensure high hydraulic system efficiency and excellent productivity with little hydraulic loss. Large, heavy-duty main pumps and a separate swing pump provide quick cycle times during multi-function operation.

Reverse Swing Dampening Valve

Swing dampening valves reduce swing wag and produce smooth swing stops.

Proportional Priority Pressure Compensation (PPPC) Hydraulics

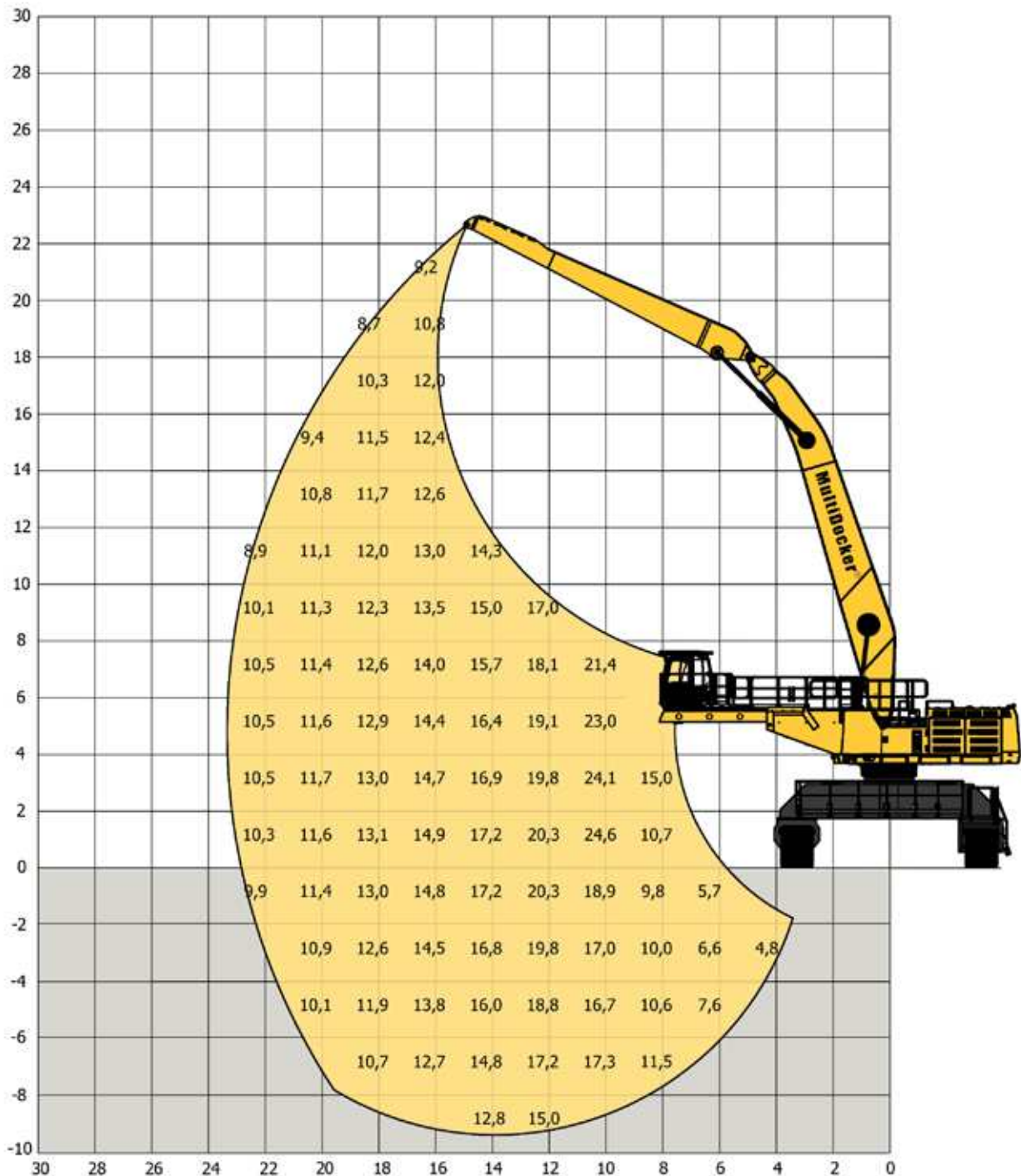
Load-sensing, PPPC system, with Caterpillar-developed electronic actuation, provides high efficiency and excellent controllability. Cylinder speed is directly related to operator's movement of joystick from feathering to full speed. Flow to cylinders during multi-functional operation is directly controlled by the operator and is not dependent on loads.

ACS valve

The valve is designed to intelligently manage restrictions and flows. It opens slowly when your range of joystick lever movement is small and opens rapidly when movement is high. It puts flow exactly where you need it when you need it, which means you will experience much smoother operation, greater efficiency, and lower fuel consumption. The ACS valve also has a new automatic hydraulic oil warm-up function – a definite plus in putting your machine to work more quickly in cold weather conditions.

LIFTING DIAGRAMS

23,1 m



Lifting capacity table, unit tonne = 1.000 kg

The lifting capacities are measured at 360° in the stick end-joint. The above values have been calculated in compliance with ISO 10567:2007. They do not exceed 87% of the hydraulic lifting capacity or 75% of the tipping load, with the machine on firm, level ground.

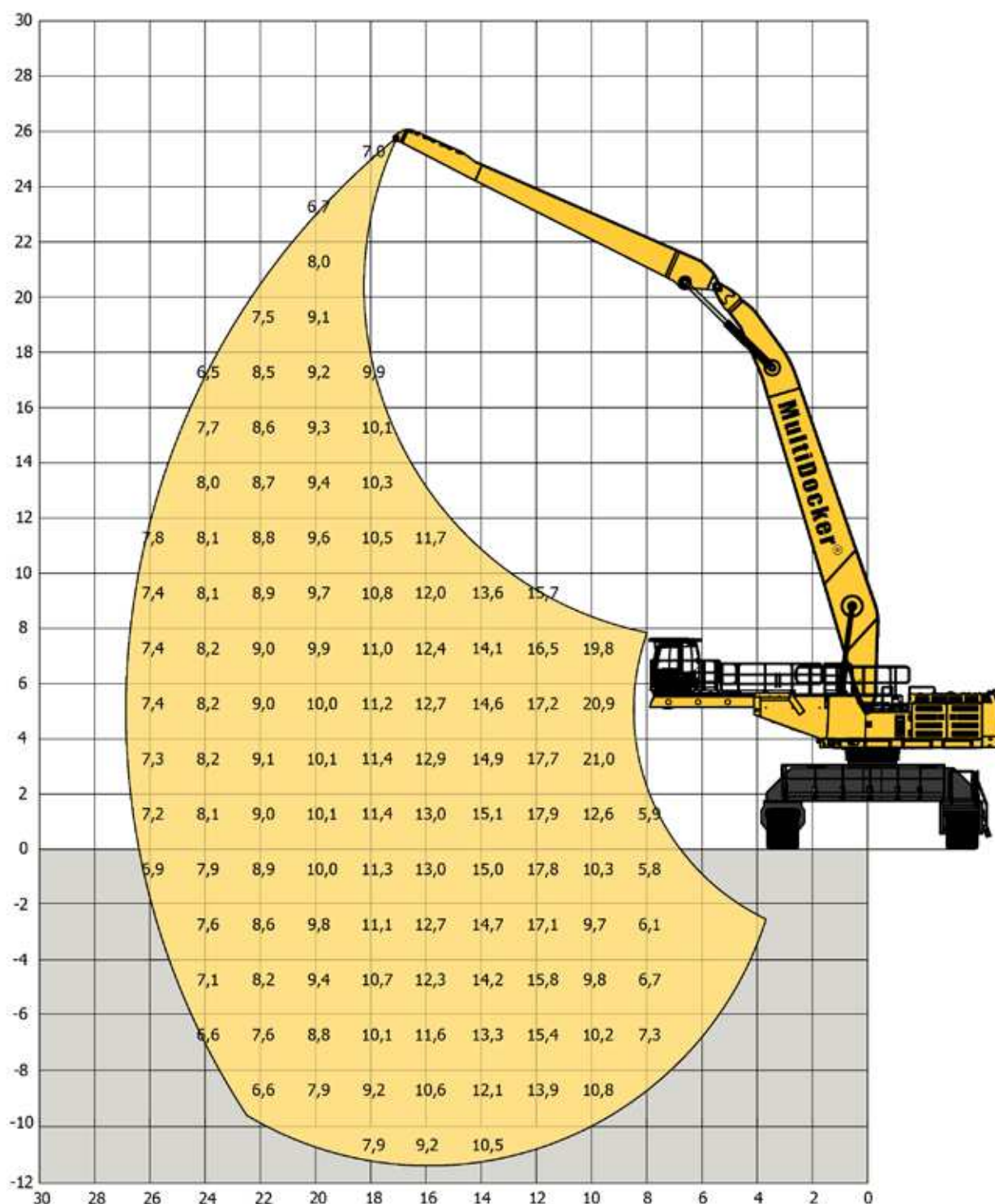
SPECIFICATIONS

Front end: 23,1 m
Boom: 14,0 m
Stick: 11,0 m

Cabin: Standard
Cabin solution: CM8000
Eye level: 7 m

Undercarriage: MG4800C
Type: Track based
Height: 3,5 m

27,0 m



Lifting capacity table, unit tonne = 1.000 kg

The lifting capacities are measured at 360° in the stick end-joint. The above values have been calculated in compliance with ISO 10567:2007. They do not exceed 87% of the hydraulic lifting capacity or 75% of the tipping load, with the machine on firm, level ground.

SPECIFICATIONS

Front end: 27,0 m
Boom: 16,25 m
Stick: 12,8 m

Cabin: Standard
Cabin solution: CM8000
Eye level: 7 m

Undercarriage: MG4800C
Type: Track based
Height: 3,5 m

SAFETY

SAFETY DETAILS

The MultiDock CH1400FL is equipped with sturdy galvanised steel access ladders, walkways and platforms all complete with strong handrails. Safety gates are fitted to platforms for improved safety.

In case of emergency/engine stop when operating it is fully possible to leave the machine by using the standard access route from the cab to the platforms and ladders then to ground. If the machine is rotated so that normal access routes cannot be used it is possible to use the emergency ladder located behind the cab to reach the service platform. This safety feature makes MultiDock unique on the market.

1. Fire-extinguisher and emergency hammer (placed inside the cab).
2. Fire-extinguisher
3. Flashing beacons when in travel mode.
4. Emergency stop (2 pieces)
5. Travelling alarm (acoustic, not marked in the picture).
6. Fire protection system (optional, not marked in the picture).

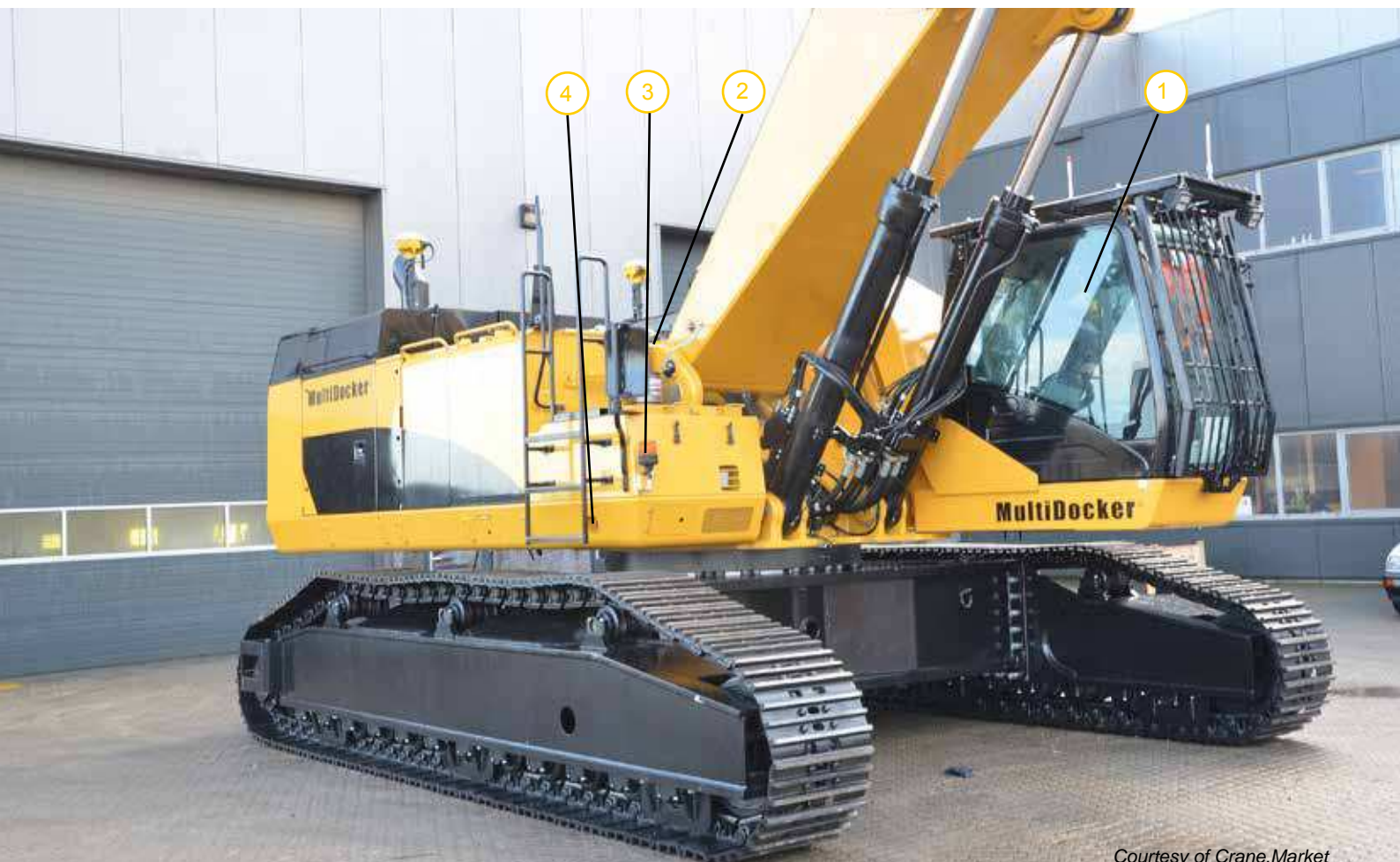
OVERLOAD PROTECTION SYSTEM

The machines lifting capacity values have been calculated in compliance with ISO 10567:2007.

The capacities do not exceed 87% of the Hydraulic capability and 75% of the tipping load with the machine on a firm and level ground. In the case of an overload situation the protection system will not allow the dipper arm stick to move outwards therefore preventing an overload in the boom cylinders and uncontrolled lowering of the arm.

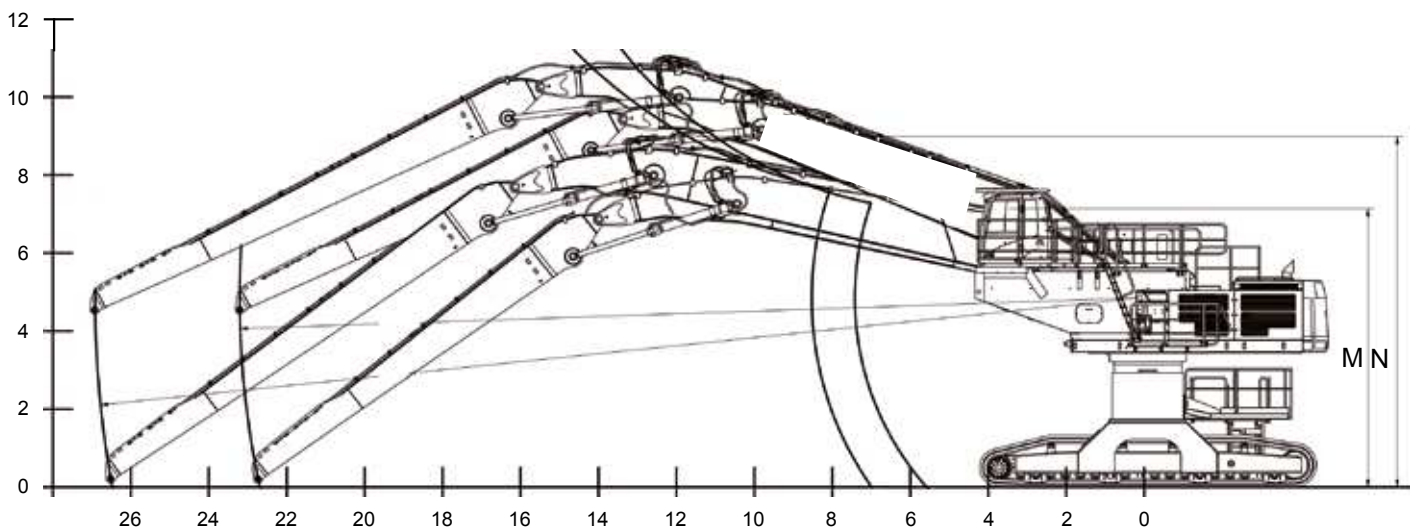
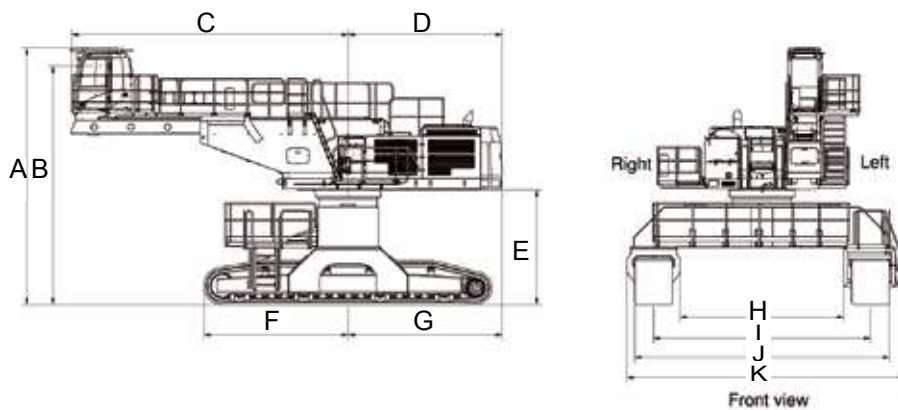
CABIN SAFETY SYSTEM

The machine is equipped with an electronic safety system with motion control. The system can as an option prevent from collision between the cabin and the work tool. The system also controls the load in the machine to avoid overload



DIMENSIONS

Undercarriage MG4800C CM8000



A	8000 mm	H	5000 mm
B	7200 mm	I	6700 mm
C	8300 mm	J	7800 mm
D	4800 mm	K	8600 mm
E	3500 mm	L	5000 mm
F	4400 mm	M	7200 mm
G	4800 mm	N	9000 mm

Values are approximate

[illegible]



GET'S THE JOB DONE!

We didn't invent the MultiDock and start the company to make money. We invented the MultiDock to do a job, for us. Because we were dock-operators ourselves, we knew just what's needed. We sat down and said to ourselves: if we could invent exactly the right machines to do the jobs we need, what would it look like? How would it work?

And with a long process of experimentation, we devised the MultiDock CH - a machine that's mostly standard, tried- and-tested, ultra-reliable Caterpillar components. We wanted high efficiency, fast performance, faultless reliability, high machine availability and a long Low-cost working life. So we built it, and it worked. Over the years we have developed the products Further and increased our portfolio and our number of partners. Today we are proud to offer world leading products and services to customers in many industries all over the world.

WELCOME TO CONTACT US or visit our website for more information!

MultiDock Cargo Handling AB
Saltängsgatan 15
SE-602 22 Norrköping, Sweden

Phone: +46 (0)11 450 30 00
E-mail: info@multidocker.com
Web: www.multidocker.com

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