

MultiDocker®

ENGINE OUTPUT: WEIGHT: REACH: 352kW 78-85 mt 17,9 - 23,8 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.







## **EFFICIENCY**

**UP TO 35% LOWER FUEL CONSUMPTION!** 

**UP TO 50% LESS NOX EMISSIONS** 

TIER 4/STAGE 4 FINAL TURBO ENGINES

**ENERGY REGENERATION SYSTEM** 

### "UPTIME IS MONEY. DOWNTIME IS COST"

Material handlers from MultiDocker are based primarily on tested and well proven Caterpillar components. Meaning, that when you buy a MultiDocker 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 doublelayered 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 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.

www.cat.com/maintenance-and-support

## **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 Caterpillardesigned 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 everincreasing 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 CH900F 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.

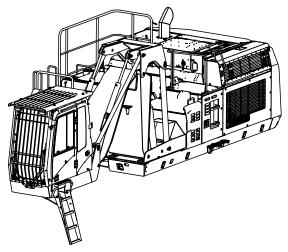






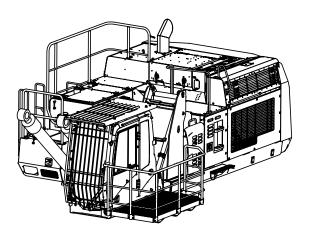
## CABIN

### **CABIN ELEVATOR PORT, CEP**



Hydraulically elevated with double linkage. Designed for loading/discharging vessels offering a various combination of positions of the cabin.

### CABIN ELEVATOR INDUSTRIAL, CEI



Hydraulically elevated with single linkage. Designed for industrial use where comfort and safety is crucial.



## COMFORT AND CONVENIENCE KEEPS PEOPLE PRODUCTIVE

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

#### **Cabin Safety System**

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

### **STANDARD CAB EQUIPMENT**

- 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 including overhead and windshield guards

#### **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.

#### Wipers

Parallel wiper, including a washer nozzle is mounted below the cab windshield; this optimizes the operator's viewing area and offers continuous and intermittent modes.

#### Windows

To maximise visibility, all glass is affixed directly to the cab.

#### Consoles

Re-designed consoles feature a simple, functional design to reduce operator fatigue, ease of switch operation and excellent visibility. Both consoles have attached armrests and allow the height of the armrests to be adjusted.

#### Sound

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

#### **Monitor Display Screen**

The monitor is a full colour 400x234 pixels LCD graphic display. 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.

#### **Gauge Display**

Three analogue gauges, fuel level, hydraulic oil temperature and coolant temperature, are displayed in this area.

#### **Multi-information Display**

This area is reserved for displaying information that is convenient for the operator. The "Cat" logo mark is displayed when no information is available to display.

#### Operator Gain/Response

This is used to suit the operators' preferences or application.

- · Quicker, for fast response and more production
- · Slower, for more precision
- Three preset settings with 21 move available

#### **Electronic Joysticks**

Electronic joysticks provide features not possible with hydraulic pilot valves:

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

### **OPTIONAL EQUIPMENT**

- + Weight Scale (excl summarise function.)
- Weight Scale (incl summarise function.)
- + Electric Pre-heater 220 V
- Camera for stick incl. LCD display Others
- + Radio /CD incl. remote control

## **BOOM & STICK**

The boom and stick are 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 CH900F is offered with three standard boom and stick configurations with a reach ranging from 17,9 m up to 23,8 m excluding work tools.

Boom (mm)	Stick (mm)
11 700	8 000
13 500	9 800
15 000	11 400

### **SMARTBOOM**

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





## UNDERCARRIAGE

This premium product is "steady as a rock", based on a real heavy-duty-undercarriage. The axels are robust, wheels are big and the outriggers are strong. The machine can be placed on most types of grounds e.g. grass, asphalt etc. and has a design that can withstand tough conditions. Solid tire is an option when you order your CH900F. This wheel-based machine climbs tough terrain and is easily driven across narrow quays and on public roads. Movements during operations are possible simultaneously as the machine is carrying goods. The CH900F design also allows the machine to be folded and transported on, for example, a truck.

#### WHEEL BASED UNDERCARRIAGE

CH900F has a very robust undercarriage and remains stable on most types of surfaces. This 4WD machine has heavy-duty axles and is perfect for cargo handling applications.

#### Outriggers

The CH900F has four, very strong outriggers, giving extra stability when operating. The construction of the supporting plates gives low ground pressure.

#### Advanced Brake System

Hydraulically controlled wet disc brakes in each wheel. The parking brake is a disc brake positioned on the rear axle just next to where the cardan is attached. Applied by a spring and released by hydraulics.

#### Drive Line Concept

The driveline design efficiently utilize the increase in engine torque and power to provide a comfortable ride with improved smoothness, hydraulic retarding and gear shifting commonly used during travel between cargo handling jobs.

#### **Ground Clearance**

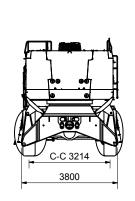
The compact undercarriage design provides optimal ground clearance during travel.

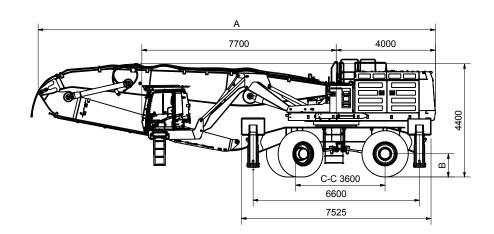
#### Solid tires

The CH900F can be delivered with solid tires as an option. This decreases downtime due to tire failures dramatically.

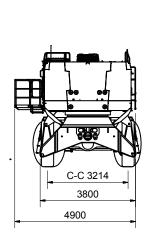
## **DIMENSIONS**

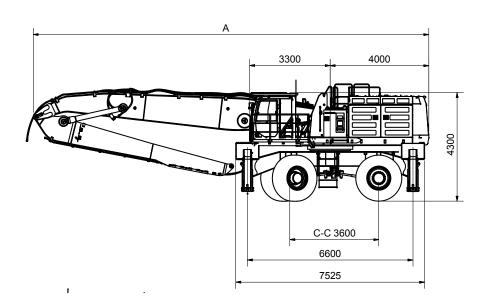
### **CABIN ELEVATOR PORT**





### **CABIN ELEVATOR INDUSTRIAL**





Δ	17,9 m reach	21,0 m reach	23,8 m reach
	15 700	17 500	19 200

## **OPTIONAL EQUIPMENT**

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



The 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 operating with the power on, a detected fire actuates only the alarm signals. The operator should then immediately stop the operation and turn off the power or operate the extinguishing installation manually. Manual operation can be done from a firing button on the control unit in the cab.

#### **CATERPILLAR MSS DATA SHEET**

The Caterpillar Machine Security System (MSS) is an onboard 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.

#### **LUBRICATION SYSTEM (STANDARD)**

The lubrication system automatically lubricates the front end and the swing bearing. The system comes as standard.



#### **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 remote, by phone.

#### CATERPILLAR PRODUCT LINK

Product Link is a satellite based system that uploads 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.

#### **CUSTOMIZED COLORS**

Make your MultiDocker unique by choosing your own color.



## **TOOLS & QUICK RELEASE COUPLING**

MultiDocker is one of the market's most versatile machines for fast and safe cargo handling. It can be equipped with a varity 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 attchments
Timber grabs 1,5-3,3 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





## **TECHNICAL DATA**

### **CH900F**

Base information	Base machine (Caterpillar) Weight (mt) Maximum reach (m) Maximum lifting capacity (kg)	374F MH 78 23,8 20 000
Engine (diesel)	Model (Caterpillar) Net power (kW) Bore (mm) Stroke (mm) Piston displacement (I)	C15 ACERT 352 137 171 15,2
Engine (E-power)	Model (VEM) Net power (kW) Voltage (V); standard 690 V Standard ampere (A) Standard travel distance (m) Power supply	Electrical engine 315 400-1 000 460 150-200 Cable drum/air supply/power duct
Hydraulic system	Max. flow, working pumps (I/min) Max. flow, swing pump (I/min) Max. pressure, main circuit (kPa) Max. swing (kPa)	880 360 37 000 29 400
Undercarriage	Wheel based Stabilizers Axles (no) Axles (front) Axles (rear) Tires  Drive  Brakes Max. speed (km/h)	MultiDocker CH900F 4-point outriggers, base plate 0,90 x 0,95 2 90 mt, oscillating (lockable) 90 mt, rigid mounted Trelleborg 18.00 R33 or eqvivalent. Solid tire as an option. 4 wheel drive with planetary hub, cardan shafts, central gear & 2 hydraulic motors Hydraulic brake system with parking brake 10 km/h
Volumes	Fuel tank (I) Cooling system (I) Engine cranecase (I) Swing drive – drive (I) (each) Hydraulic system incl. tank (I) Hydraulic tank (I)	935 95 65 12 670 310
Weight main components	Base machine incl. swing bearing (kg) Cabin raiser CEP (kg) Cabin raiser CEI (kg) Counterweight (kg) Undercarriage incl. axles and outriggers (kg) Boom cylinder – each (kg) Stick cylinder – each (kg) Front guard Other (kg)	20 000 4 660 2 600 17 500 23 000 750 400 100 1 000

#### **ENGINE (DIESEL)**

The Cat C15 engine with mechanically actuated electronic fuel injection (MEUI) powers the CH900F. The C15 has ACERT® Technology, a series of Caterpillar engneered 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.

#### Increased Power

The maximum power is 352 kW (476 hp). The Power Management System (PMS) is also available to manage productivity and fuel economy.

#### Improved Fuel Efficiency

The CH900F 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 C15 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 CH900F 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.

#### **SAFETY**

#### Safety Details

There is a strong connection between the stability of the machine and the machine operator's working environment. MultiDockers are extremely sturdy machines – always with a focus on safety and comfort. This constitutes the basis of an effective and highly productive working environment.

#### FOPS & OPS

The cabin has an overhead protection frame bolted directly to the top of the cabin. The FOPS and OPS structure on the machine is specifically designed, tested and certified by Caterpillar. (F.O.P.S = falling object protective system, OPS = Operator Protective Structures.)

#### 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.

#### **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 CH900F meets the following EMC (Electro Magnetic Compliance) requirements: ISO 13766 Earth Moving Machinery – Electromagnetic compliance EU Directive 89/336/EEC Aus EMC Framework.

#### Fluid Management

Several serviceability elements are designed into the CH900F 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.

#### **Advanced Features**

The following are hydraulic system features of the CH900F. The electric re-generation system is incorporated into the hydraulic system to

improve productivity and lower fuel consumption.

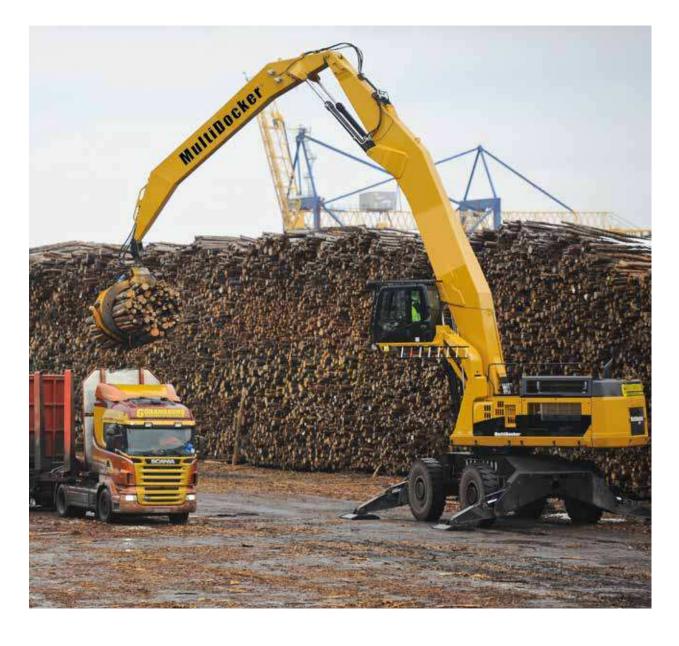
The main pump flow has increased 10 percent to provide shorter cycle times. The main implement pressure has been increased 9 percent. This also provides higher lifting capacity.

#### Proportional Priority Pressure Compensation (PPPC) Hydraulics

Load-sensing, PPPC system, with Caterpillar-developed electronic actuation, provides high efficiency and excellent controllability.

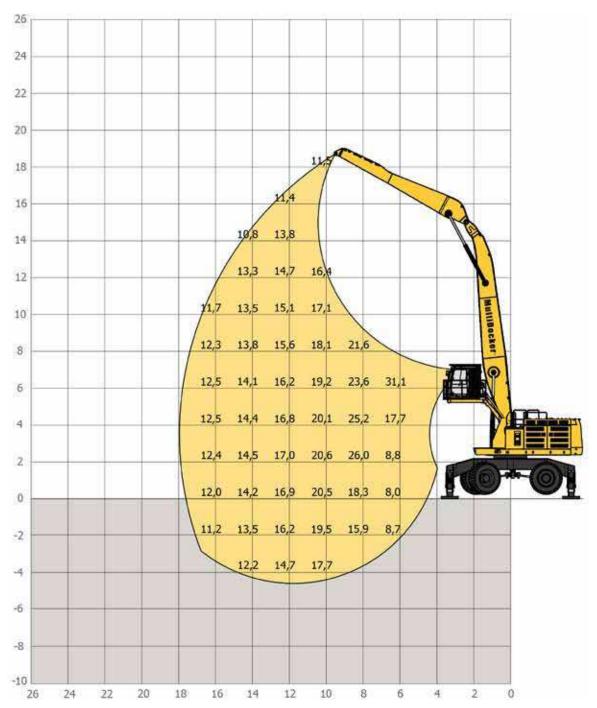
Cylinder speed is directly related to operator's movement of joystick from feathering to full speed. Flow to cylinders during multifunctional operation is directly controlled by the operator and is not dependent on loads.

source: www.cat.com



## LIFTING DIAGRAMS

### 17,9 m



Lifting capacity table, unit tonne = 1.000 kg. The lifting capacities are measured at  $360^{\circ}$  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.

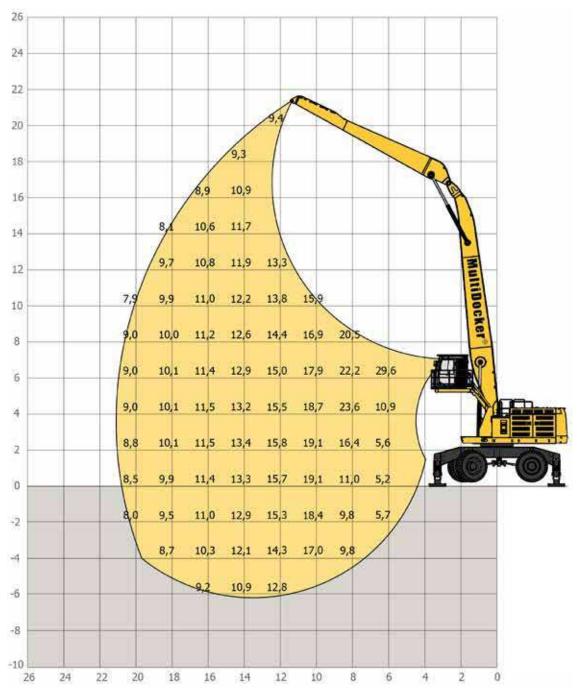
#### **SPECIFICATIONS**

Front end: 17,9 m Boom: 11,7 m Stick: 8,0 m Cabin: Standard Cabin lift: CEI Eye level: 7 m Undercarriage: MD900
Type: Wheel based

Height: 2,3 m

## LIFTING DIAGRAMS

### 21,0 m



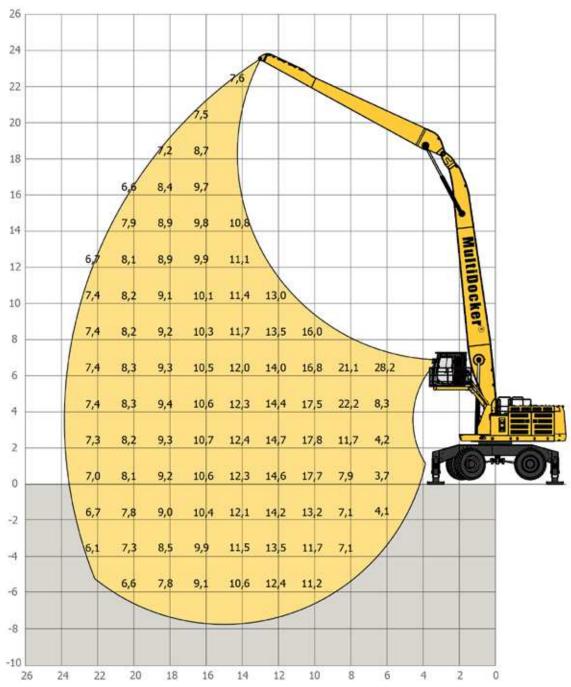
Lifting capacity table, unit tonne = 1.000 kg. The lifting capacities are measured at 360° in the stick end-joint. The above values have been calculated in compliance with ISO 10567:2007. They do not exceed 87% of the hydraulic lifting capacity or 75% of the tipping load, with the machine on firm, level ground.

#### **SPECIFICATIONS**

Front end: 21,0 m Boom: 13,5 m Stick: 9,8 m Cabin: Standard Cabin lift: CEI Eye level: 7 m Undercarriage: MD900 Type: Wheel based

Height: 2,3 m

### 23,8 m

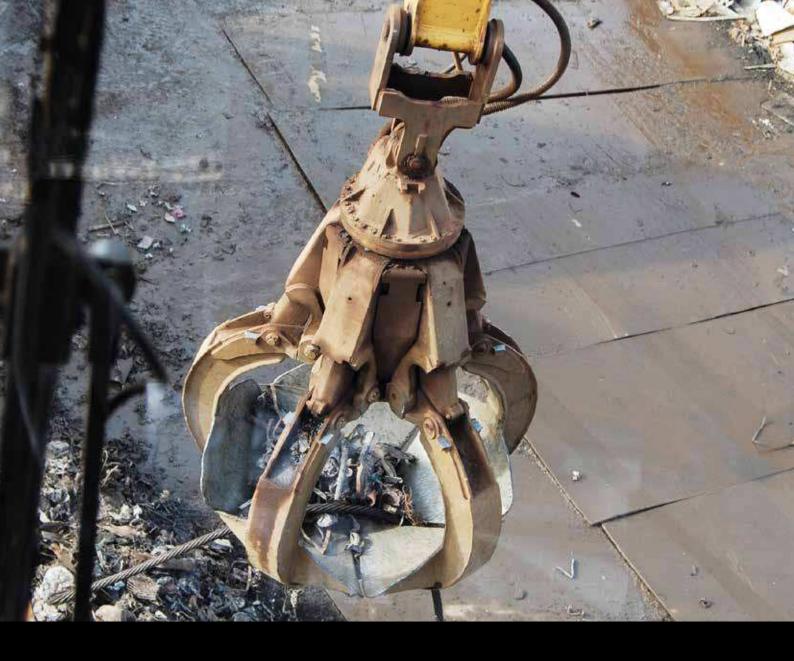


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#### **SPECIFICATIONS**

Front end: 23,8 m Boom: 15 m Stick: 11,4 m Cabin: Standard Cabin lift: CEI Eye level: 7 m **Undercarriage: MD900** Type: Wheel based Height: 2,3 m

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# GET'S THE JOB DONE!



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 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!

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**MultiDocker**®