

Watermaster



Amphibious Multipurpose Dredger

Watermaster



Smart solution for hard work

Watermaster amphibious multipurpose dredger excels alone in the tasks that are conventionally handled with multiple separate machines. With its wide selection of quickly changeable attachments, the Watermaster can be utilized in deepening shallow waterways, preventing floods, removing invasive vegetation and trash, maintaining industrial ponds and in infrastructure projects in the water environment.

VERSATILE

Dredging, raking, piling - and more. From dry ground to 6 meters depth
Replaces several single purpose machines

MOBILE

Unique mobility in water and on land
No cranes, tugboats, assisting vessels, winches or wire-cables

PROVEN

Hundreds of units operating worldwide in over 70 countries
Made in Finland

Watermaster

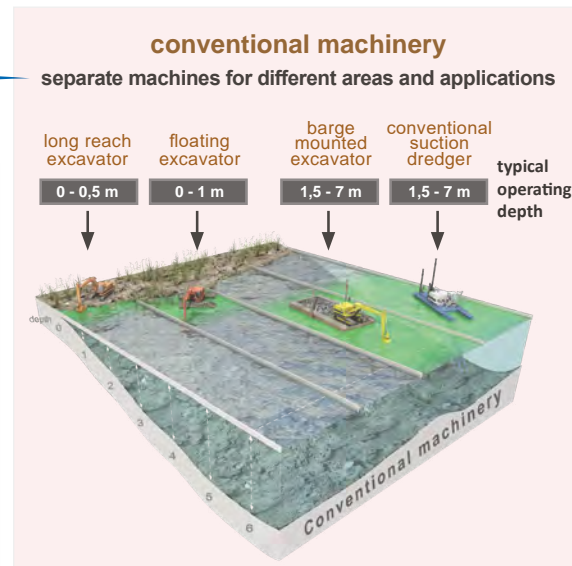


Watermaster

The Amphibious Multipurpose Dredger

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Amphibious Multipurpose Dredger

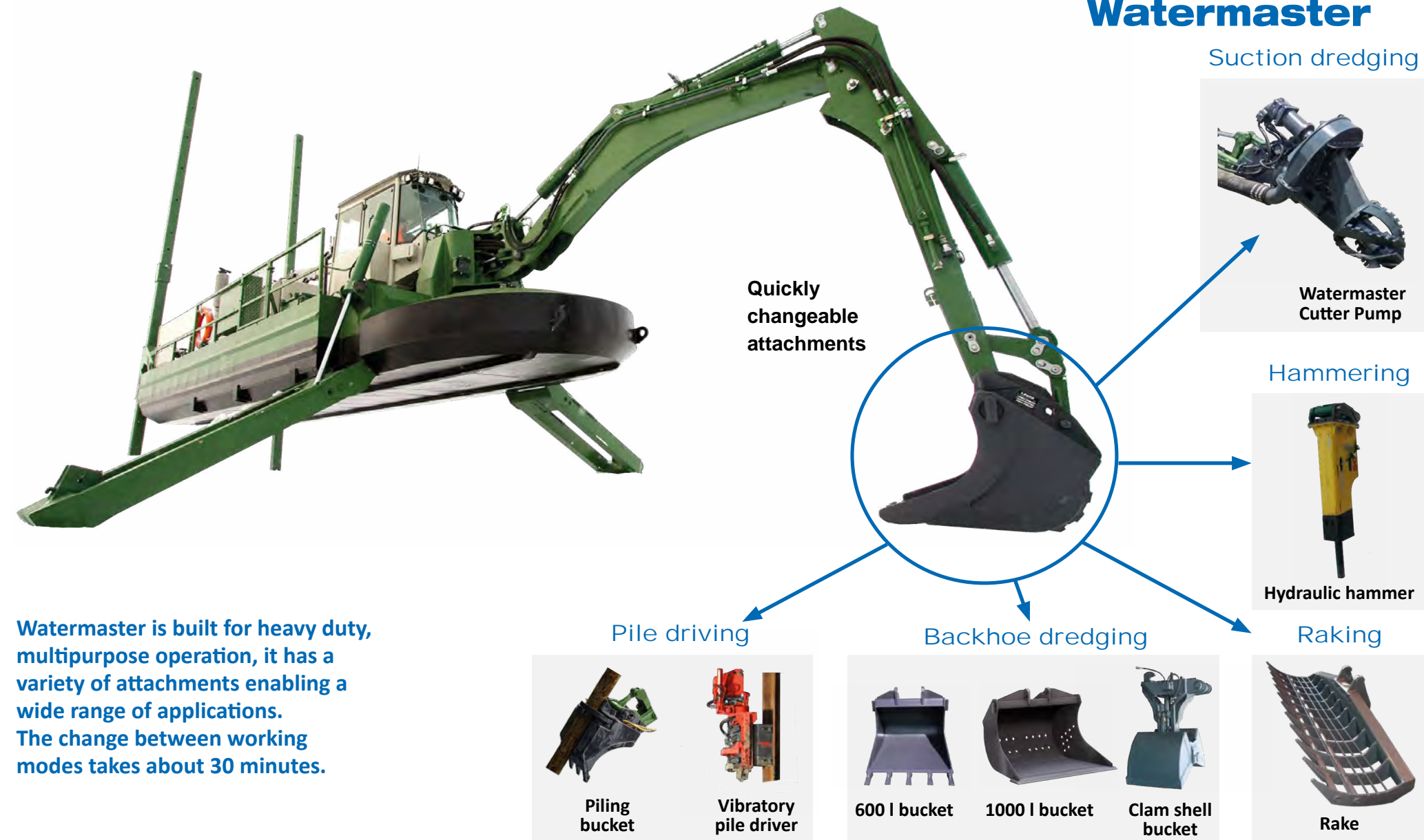


Watermaster

- one machine for all applications
- superior mobility and versatility
- replaces several single purpose machines
- reduces investment and operational costs
- proven performance and service

Watermaster

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Watermaster is built for heavy duty, multipurpose operation, it has a variety of attachments enabling a wide range of applications. The change between working modes takes about 30 minutes.

One versatile machine

For all shallow water applications

Heavy duty versatility

With a large selection of attachments

SUCTION DREDGING

Suction dredging is the most efficient way to extract sediments from the bottom. The materials can be directly and accurately discharged to the final settlement area.

- Smart suction dredging concept (IWOS)
- Submersible pump allows working in very shallow waters or even from the dry land
- The maximum pumping distance is 1,5 km. Distance can be doubled with the Watermaster Booster Station
- Pumping capacity of sludge (solid material mixed with water) is approximately 600 m³/h with Classic IV and 900 m³/h with Classic V



BACKHOE DREDGING

Backhoe dredging is the best work method when the soil is very hard or contains big rocks or other large-sized objects unsuitable for pumping.

- Steady, independent anchoring with four stabilizers
- The most efficient backhoe dredging depth is 0 m – 4,5 m
- Backhoe dredging capacity of solids approximately 40-60 m³/h, depending on soil type and backhoe bucket
- Several attachments available: 600 l bucket with teeth, 700 l bucket without teeth, Clam shell bucket



RAKING

Water hyacinth and other invasive vegetation can be removed by raking. Debris-filled urban canals can also be cleaned using the same method.

- Watermaster's rake attachment is 2,75 wide
- if the vegetation is rooted, the rake can remove the roots as well, which prevents new growth



PILE DRIVING

Piling is often required in construction projects and infrastructure projects. Watermaster can do the piling from the water, not only from the shore where the space is usually limited.

- Two attachments are available for piling work; the piling bucket (for wooden piles) and the vibratory pile driver (for both metal sheets and wooden piles)
- Watermaster grabs the piles from the side and can thus handle longer piles



Work modes

Examples of Watermaster work modes

1

TRANSPORT

on a standard trailer

Watermaster

2

MOBILIZE

without set-up times,
cranes and tugboats

3

WORK

without wire-cables, winches, extra
anchors and assisting vessels

Superior mobility

Watermaster is fully amphibious

Watermaster

TRANSPORT

Watermaster is transported as a complete unit so
there are no set-up times when arriving at the site



WALK

Watermaster is fully amphibious and can walk independently in and out of water without crane assistance



CRUISE

Watermaster has its own propulsion system so it can cruise to the site independently without tugboats

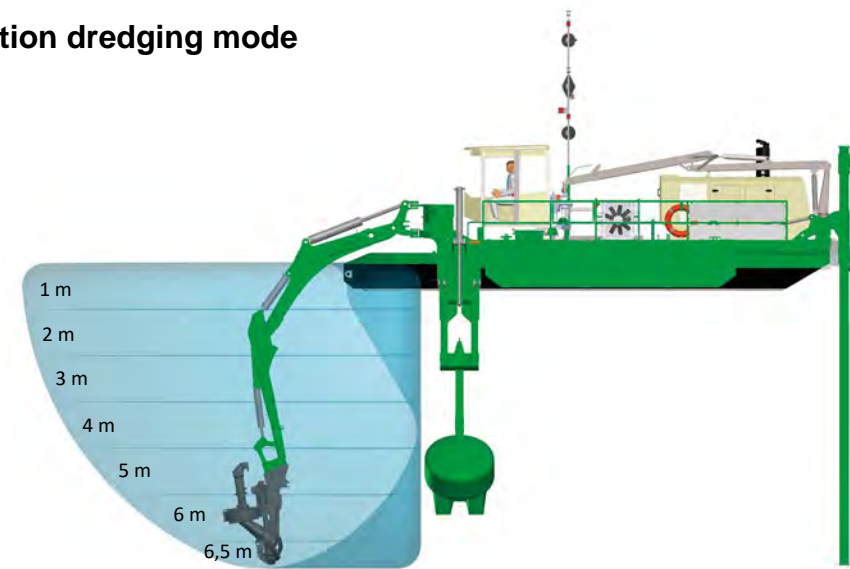


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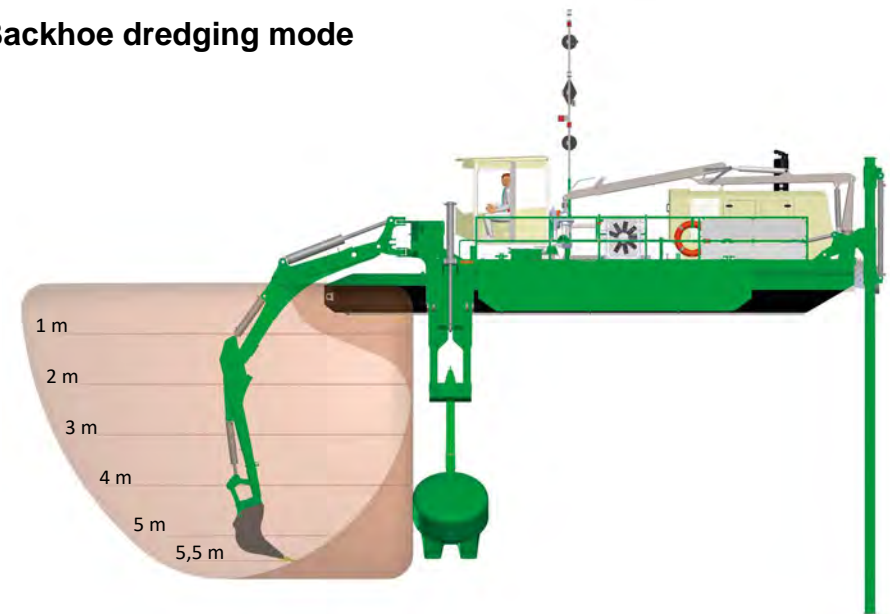
WORK

Watermaster has four stabilizers and a flexible excavator arm enabling steady and accurate anchoring and large work area

Suction dredging mode

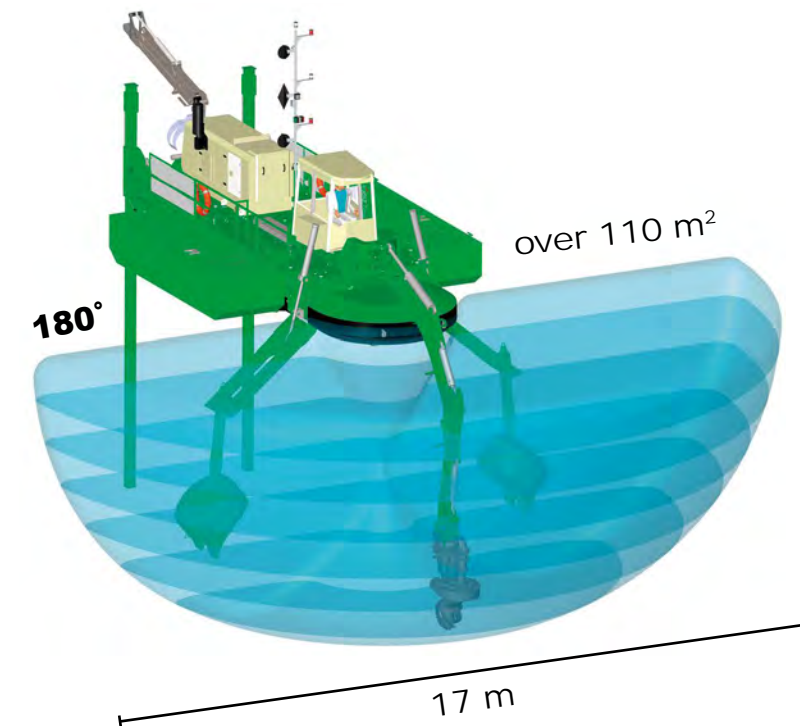


Backhoe dredging mode



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Work area



Watermaster specializes in shallow water work, from dry ground to 6 meters depth.

Work depths

Watermaster - the shallow water specialist

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KEEP WATERWAYS OPERATIONAL

Dredging applications

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PREVENT FLOODS

Environment applications

Watermaster



MAINTAIN PONDS
Industrial applications

Watermaster



BUILD INFRASTRUCTURE
Construction applications



Maintenance and deepening of waterways, rivers, tributaries, canals, lagoons, lakes, ponds and basins



Marina and harbor maintenance dredging



Beach revitalizing and land reclamation



Flood prevention and control



De-weeding water systems overrun by vegetation



Cleaning and restoring urban canals

DREDGING

ENVIRONMENT

Flood prevention, restoration and removal of invasive vegetation

Watermaster
applications

INDUSTRIAL

CONSTRUCTION

Infrastructure projects in the water environment



Process water pond maintenance dredging at different industrial sites, for example mines



Recovering valuable materials from tailings- and drainage ponds



Tailings pond maintenance work at enrichment plants



Foundation work by pile driving



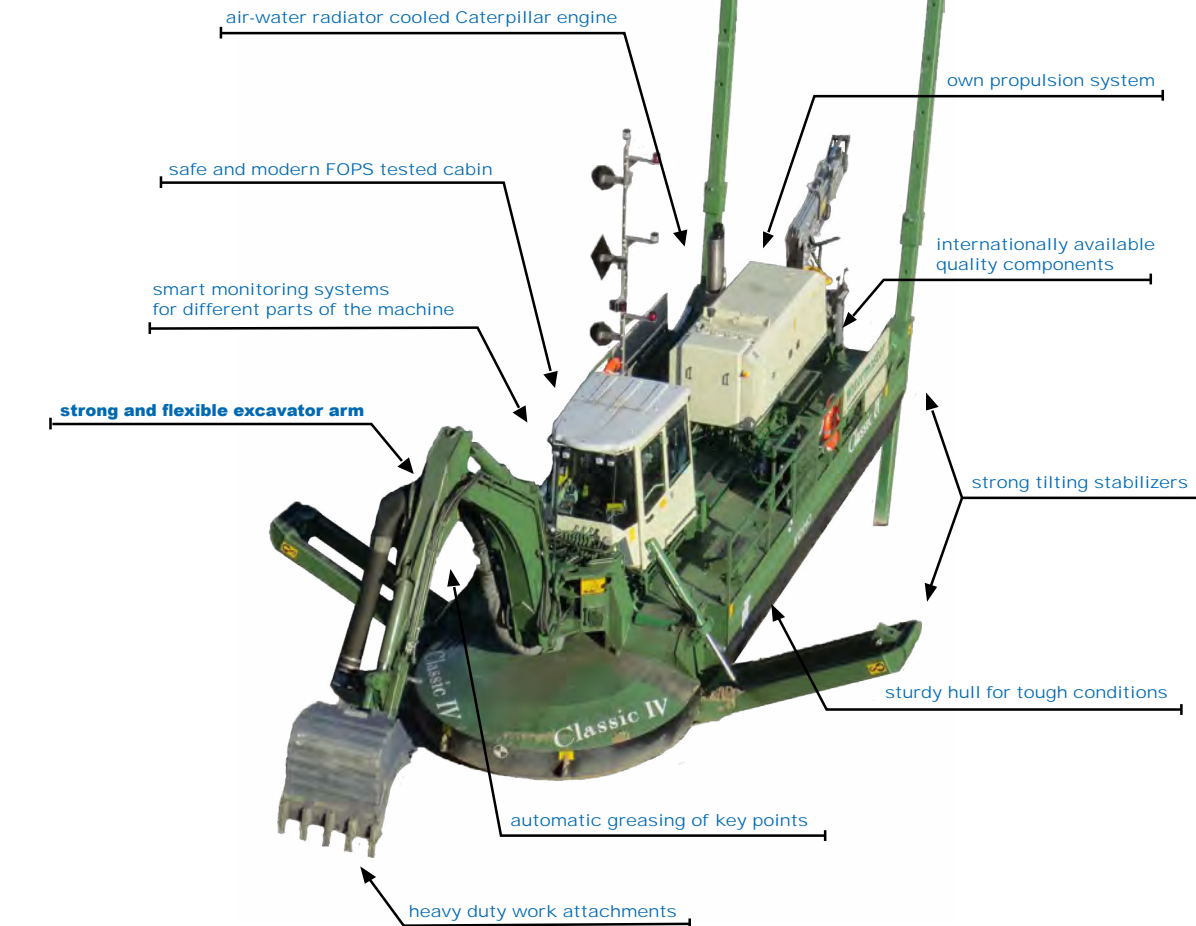
Strengthening shorelines by pile driving



Trench digging and laying underwater pipes and cables

IWOS + IWSS = BETTER RESULTS

Integrated Watermaster Operating System (IWOS) and Integrated Watermaster Service System (IWSS) are a collection of features that enable Watermaster to be mobile and productive like no other machine



Watermaster Cutter Pump, flexible excavator arm and 4-point independent anchoring are the keys to high productivity

Integrated Advantages

IWOS & IWSS

IWOS

- Maximizes productive work time and results
- Enables quick and easy mobilization
- Enables multipurpose operation with heavy duty work attachments
- Makes Watermaster fully amphibious in all work modes
- Enables steady, safe and accurate anchoring and operation
- Enables environmental dredging – the right amount from the right place



Fully amphibious
in all work modes



Steady and accurate
anchoring and operation



Large work area
maximizes productivity



Heavy duty versatility
with a strong machine



Easy to maintain and
user-friendly

Smart monitoring systems for
different parts of the machine

Automatic central pressure-
greasing system

Design features that make
servicing the machine
convenient and easy

Internationally available quality
components

Watermaster service network
support throughout the whole
lifespan of the machine



Minimum downtimes

Concept systematically
developed since 1986

Completely documented and
certified serial product with
field-proven performance

Ecological and
economical work

Multipurpose functions and
smart operating principle
minimize the strain on the
environment and keep fuel
consumption and other
operational costs low

IWSS

- Maximizes productive work time by minimizing required servicing time
- Maximizes machines' and components' lifespan and prevents damaging the machine
- Minimizes operational costs
- Makes Watermaster user-friendly and easy to maintain

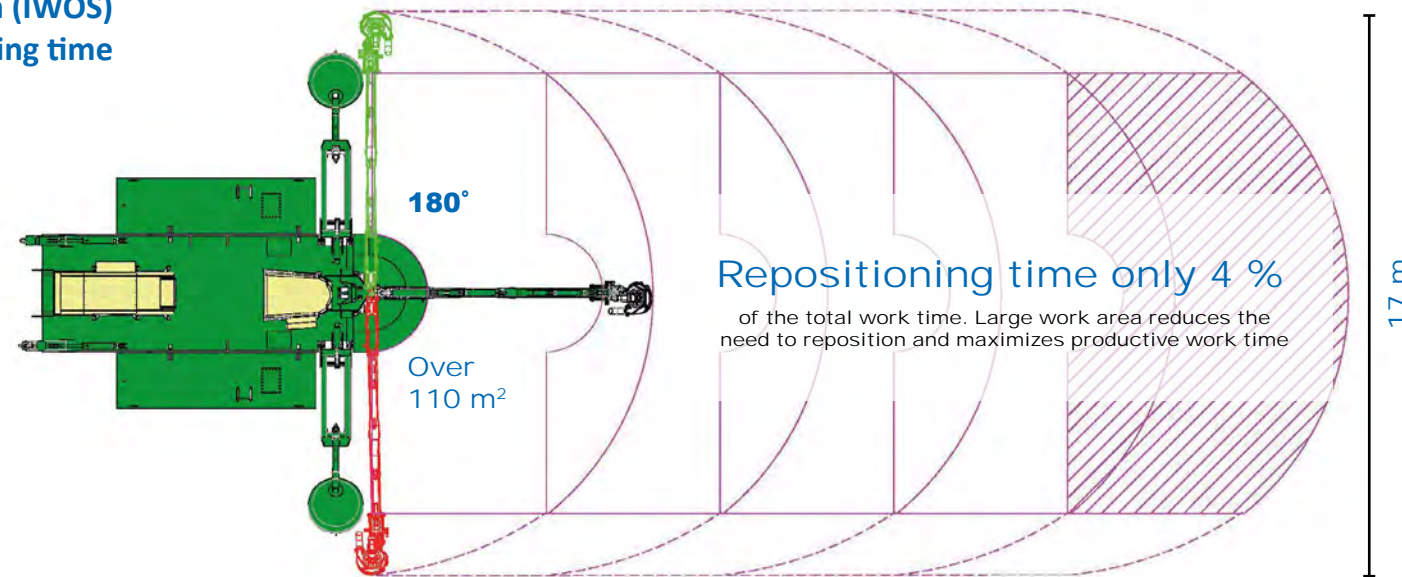
Watermaster's own state of the art Cutter Pump is an essential part of the Watermaster concept. Together with the Integrated Watermaster Operating System (IWOS) it enables 50 % to 100 % more effective pumping time compared to conventional methods.

Watermaster

Over 96 % of the total operation time is available for productive work and less than 4 % goes to repositioning the machine

Watermaster Cutter Pump, the strong, flexible excavator arm and independent anchoring with four tilting stabilizers allow Watermaster to efficiently cover a large area from each position and to reposition itself quickly.

It is ready to start working immediately after changing the position - no extra anchors, wire-cables or assisting vessels are needed.



Conventional

stiff suction pipe dredgers use up to 30-60 % of their total work time for unproductive repositioning. Watermaster needs only 4 % of the total time for the same.

Conventional dredgers cover only a narrow area from each position and thus have to reposition often. Separate anchors, assisting vessels and extra labour are usually also needed.



Watermaster

SOFT SOIL DREDGING

Normal pumping

Light organic sediments and other soft soils are easy to pump using the Watermaster Cutter Pump with the universal cutter crown. The integrated Vegetation-Cutting Knife System (patented) prevents roots and other vegetation from disturbing the work.

HARD SOIL DREDGING

Loosen and pump the hard soil

Watermaster can pump hard soils using the dedicated hard soil cutter crown. The capacity and pace of the work increases by 50-100 % compared to the universal cutter crown. Contact us to learn more.

URBAN DREDGING

Slice and pump the soil containing trash

The innovative Watermaster Urban Dredging Concept (includes patented technology) enables suction dredging at debris-filled urban sites where only excavation work was previously possible. Contact us to learn more.

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Smart dredging

Watermaster concept

In 1986 Aquamec introduced a completely new way to approach all shallow water work - an Amphibious Multipurpose Dredger, the first Watermaster. The excellent concept has been perfected through continuous development work based on customer feedback and years of field experience.

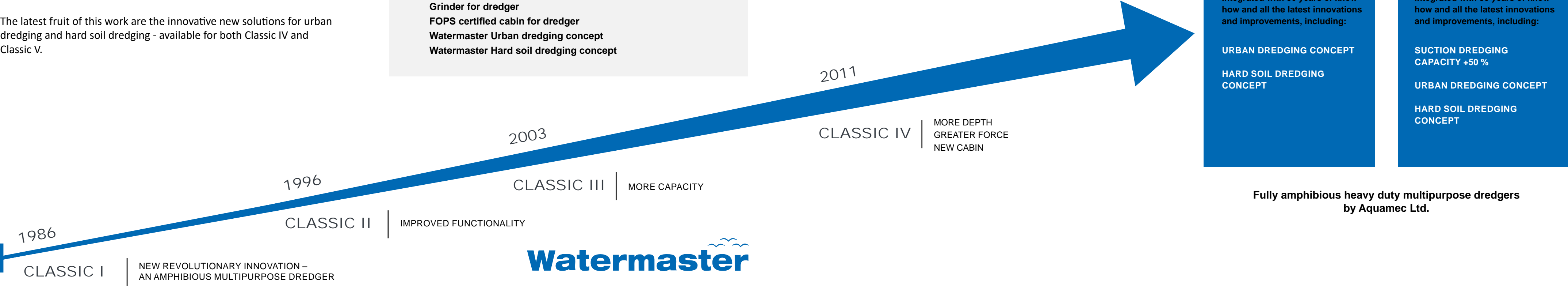
Aquamec invests heavily in the development of the work attachments and methods as well. Over the years Aquamec has introduced several new attachments that had not been used with a dredger before, including a pile driver, hammer for underwater work and a rake.

The latest fruit of this work are the innovative new solutions for urban dredging and hard soil dredging - available for both Classic IV and Classic V.

AQUAMEC INNOVATIONS
IN DREDGING:

- Amphibious Multipurpose Dredger - Watermaster
- Watermaster Cutter Pump
- Piling attachment for dredger
- Rake attachment for dredger
- Hydraulic hammer for dredger
- Grinder for dredger
- FOPS certified cabin for dredger
- Watermaster Urban dredging concept
- Watermaster Hard soil dredging concept

NOW



Technology innovator

AQUAMEC LTD.



Watermaster

WATERMASTER BY AQUAMEC LTD.
Aquamec develops, manufactures and markets
the Watermaster multipurpose machines.

Aquamec is part of Lännen MCE group of companies. Besides Watermaster the group is known for the brand names Lännen and Lundberg. The "MCE" stands for: Mobile Construction Equipment.

A SERIAL PRODUCT - MADE IN FINLAND
Watermaster is a fully tested and documented
serial product.

Watermasters are made in Finland and are manufactured using the highest standard components, labour and production facilities. The factory is equipped with modern CNC machine tools and welding robots.

Serial production ensures consistent high quality, quick delivery times, full documentation and easy service.



Watermaster



Safe FOPS certified cabin LX

Watermaster
By Aquamec Ltd.

TRAINING INCLUDED

Comprehensive local training ensures successful long-term operation.

Every delivery includes field training at the customer's work site by an authorized Watermaster trainer.

During training the local operators learn to operate and maintain the Watermaster dredger in a correct, efficient and safe way. The trainees do not need to have previous dredging experience.



AFTER-SALES SUPPORT

Service and spare parts always available.

Watermaster's design principle is to use internationally known quality components. These components are easily available around the world.

There are several Watermaster spare parts and service points internationally.

A centralized spare parts stock is located at the factory in Finland supporting the end clients and service points worldwide.



Watermasters are operating worldwide, from tropical to arctic climates

Support
Always available



Made in Finland

QUALITY ASSURED

Watermasters are inspected and certified.

For quality assurance each Watermaster is inspected and approved by an independent Maritime Authority.

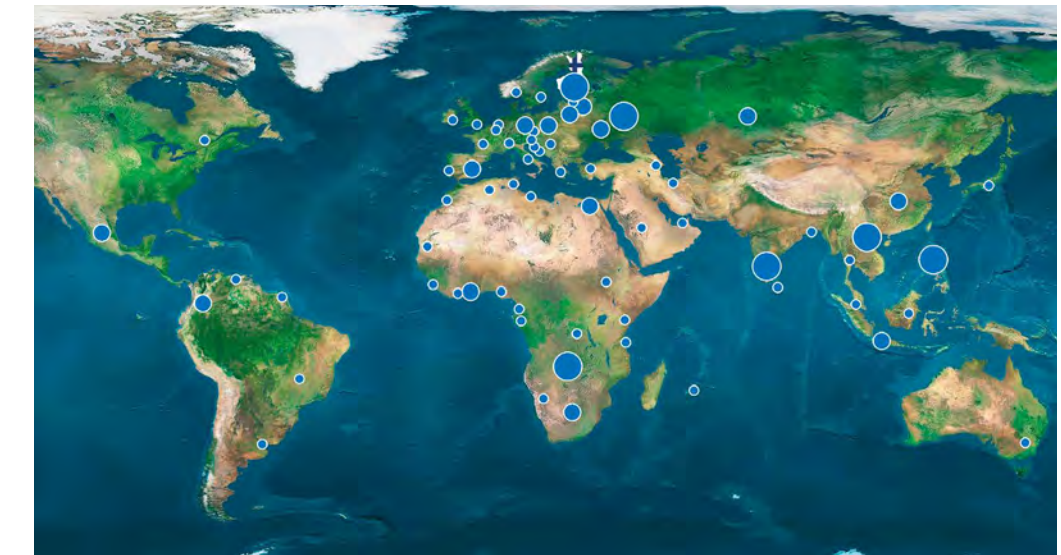
Watermaster's reliability is demonstrated through documents like: quality certificate ISO 9001, environmental certificate ISO 14001, safety certificate ISO 3349 and stability and trim calculations.

OPERATING WORLDWIDE

Over 300 references in over 70 countries.

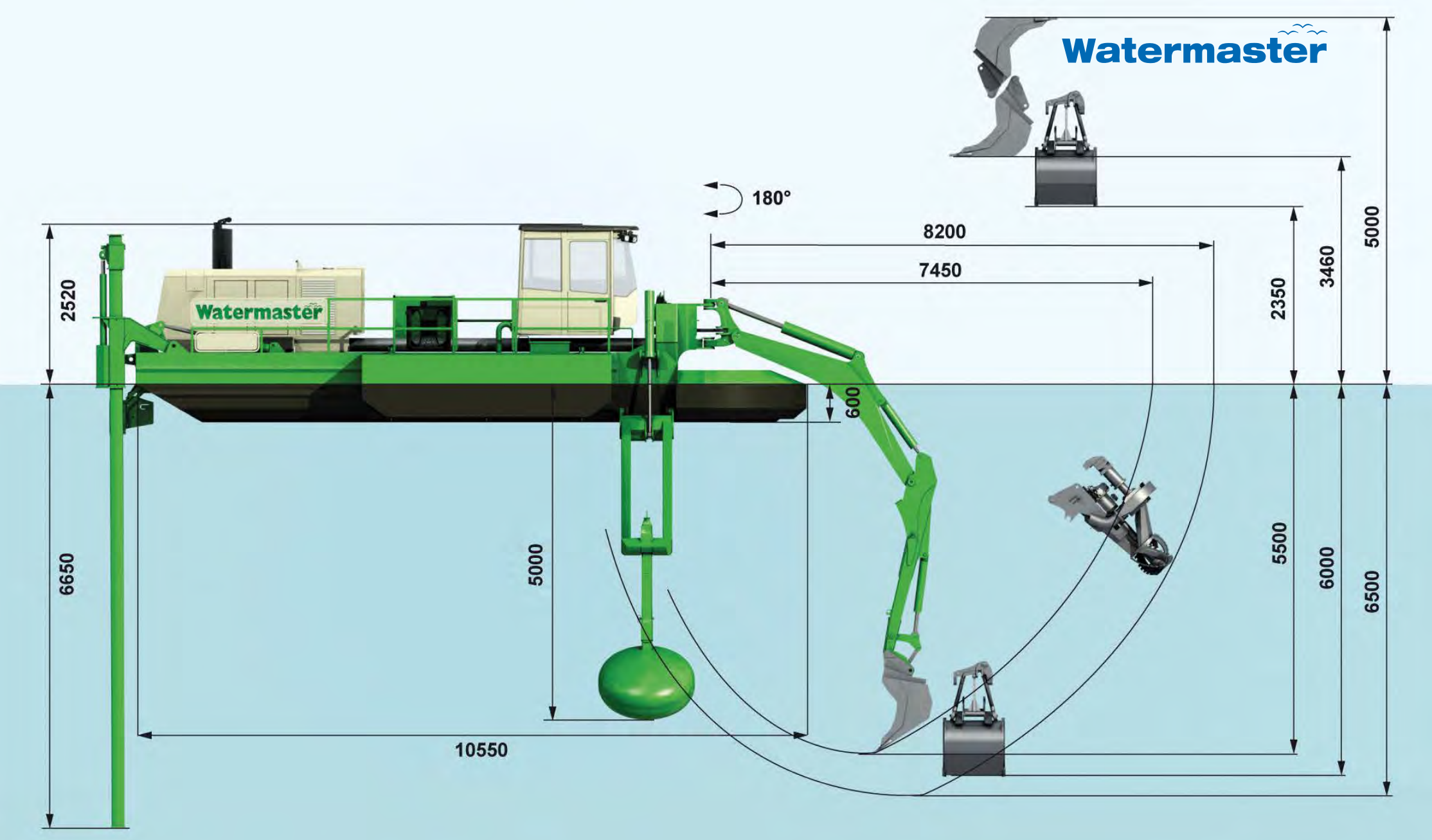
Watermasters have already completed thousands of shallow water projects around the world.

Contact us to learn more about Watermaster operations globally and to discuss Watermaster's suitability for your projects.



Watermaster

By Aquamec Ltd.



Dimensions

Amphibious Multipurpose Watermaster Dredger

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engine

Caterpillar C7.1, turbo charged, 6-cylinder diesel engine

- air-water radiator cooled
- flywheel power at 2100 rpm
- fuel tank capacity
- electric system
- batteries
- electric refueling pump

168 kW (Classic IV)
205 kW (Classic V)
1200 l
24 V
2 x 170 Ah

hydraulics

one axial piston pump for dredging and propeller

- operating pressure
- one axial piston pump for digging and stabilizers
- operating pressure

max. 345 bar
max. 230 bar

excavator

- swinging angle
- break-out force from bucket cylinder
- digging force from arm cylinder
- lifting capacity at max. reach
- quickly changeable attachments

180°
83 kN
47 kN
24,5 kN

hull

- one-piece hull divided into 7 watertight compartments
- corrosion resistant painting outside and inside
- protective skid bars on bottom
- mast, signal lights for dredging and navigation

cabin

- modern FOPS certified cabin with excellent visibility
- additional seat for instructor
- 10 work lights

anchoring

- independent anchoring and work movement without assisting vessels, winches or wire-cables
- two front stabilizers, max depth
- two rear tilting stabilizers, max depth

5,0 m
6,7 m

mobility

- self-loading and self-unloading to/from a trailer
- moves independently in and out of water
- self-propelled
- fully amphibious in all work modes

certified quality

- quality certificate ISO 9001
- environmental certificate ISO 14001
- safety certificate ISO 3449

certificates issued by authorized certification authority

transport dimensions and weight

length without boom 11,00 m
length with boom 17,00 m
width 3,30 m
height 3,15 m
weight ca 19,50 t

Amphibious Multipurpose Watermaster Classic

Technical specifications

smart solution for hard work

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