ECO 300 CUTTER SUCTION DREDGER
SHALLOW DRAFT – ONE-MAN OPERATION – REPLACEABLE CUTTER TEETH
Dredge Yard designs and manufactures reliable equipment for dredging and mining solutions. Dredge Yard supplies a full range of auger dredgers and cutter suction dredgers. The head office is located in the Netherlands and there is a branch in the United Arab Emirates. Dredge Yard’s dedicated team of engineers handles the designing, engineering, manufacturing, inspecting and testing of all the dredge and mining equipment. Our vision is to achieve the lowest cost and lowest environmental impact per m³. It is Dredge Yard’s mission to deliver reliable, high quality and cost effective solutions for transporting water, sand and slurry by using the latest technologies in design, simulation, testing and manufacturing. Dredge Yard has proven itself as a reliable supplier of many dredge and mining equipment to many contractors and operators worldwide.
Dredge Yard offers a complete range of heavy duty cutter suction dredgers, auger head dredgers, wheel dredgers and plain suction dredgers. The dredger’s robust design achieves the highest mixture density in any type of soil at many different sites.

QUALITY FROM START TO FINISH
From our locations in the Netherlands and the United Arab Emirates, our dedicated team designs, engineers, manufactures, inspects and tests all our dredging and mining equipment.

OUR EXPERTISE
The Dredge Yard team of engineers and experts has a continuous focus on research and development of the dredge and mining equipment and components. We offer support in finding the most suitable solution for your specific project and application. We design our dredgers to be very versatile and efficient.

COST EFFECTIVE
We strive to achieve the lowest environmental impact per m³ while still maintaining the lowest operating costs possible for our customers.

LATEST TECHNOLOGY
We aim to deliver reliable, high quality solutions by using the latest technologies in design, simulation, testing and manufacturing.

RELIABLE PARTNER
Over the years we have proven ourselves as a reliable supplier of many dredgers and components to contractors and operators worldwide.
Our multipurpose ECO Cutter Suction Dredgers are especially designed to collect soil, silt, sediments and sand. They can operate in many different environments, such as rivers, harbours, settling ponds, water intakes, hydro dams and more.

**BENEFITS**

**HIGH EFFICIENCY & HIGH PRODUCTION CAPACITY**
The dredge pump is located under the water line to achieve a higher mixture density and higher flow capacity. By placing the dredge pump underwater, it will not reach the pump vacuum limit for the production, especially at depths more than 6 m. The submersible pump is mounted on a heavy duty bearing assembly and is driven by a hydraulic motor.

**REPLACEABLE CUTTER TEETH**
The teeth of Dredge Yard’s high efficiency cutter head can easily be replaced to improve cutting performances. Teeth replacement can be done when the original teeth are worn out or to match the teeth with the right type of soil, silt, sand and minerals. The teeth are fixed by a bolt and nut connection and can therefore be replaced easily and fast. The teeth are available in three different types: sharp point, medium edge and wide edge.

**SELF-PROPELLED DREDGER**
The dredger is supplied with hydraulic propulsion of a first class brand. This will help to move the dredger around without any involvement of a tugboat. Two hydraulic thrusters are mounted on the back of the dredger and can be controlled from the cabin.

**MAXIMUM PRODUCTION FOR EACH PROJECT**
The pump speed is variable, allowing it to have the right pressure to fit to the suction depth and length of the discharge pipe line. By varying the speed, the total fuel consumption will be less and the dredge pump and dredge pipes will wear out less.

**ONE-MAN OPERATION OF DREDGER**
Dredge Yard’s dredgers can be operated by a single person. The entire dredger and all its equipment can be controlled from the control cabin.
EASY STORAGE & SAILING UNDER BRIDGES
The dredger has two tilting spud systems for easy dredge mobilization, transport in the water, transport on the land by flat-bed truck and for storage. Both spuds can be manually tilted and secured to the deck.

CABIN WITH ALL NECESSARIES
Dredge Yard’s cutter suction dredgers can be equipped with heater or air conditioning. The cabin also has noise reduction, ventilation, screen wipers, adjustable chair, all necessary lighting and two side mirrors for a good overview on all operations. To reduce vibration the cabin is clamped on vibration damping system.

RELIABLE BRANDS
The ECO Cutter Suction Dredgers are provided with the highest quality components from well-known first-class brands. All manufactured parts, like the hull and steel components of the cutter suction dredger, are designed, manufactured and inspected by Dredge Yard’s experienced team.

SHALLOW DRAFT
The ECO Cutter Suction Dredger is designed with three main pontoons that together provide sufficient floating capacity. This allows the ECO Dredger to operate easily in shallow waters.

TRANSPORT
CONTAINERS
The entire ECO Dredger can be disassembled for transport using standard 40 ft. containers. Upon arrival at the site, the cutter suction dredger can be assembled without the need for special tools. If required, Dredge Yard can support with the assembly and commissioning by sending service engineers to the site.

TRUCK
Due to the limited width of the pontoons the ECO Cutter Suction Dredger can also be transported in assembled way on a flatbed truck over the road.

The cutter suction dredger can be launched into the water using one single crane.
**MAIN FEATURES**

**CUTTER HEAD**
The cutter head has double curved blades to support the suction system. It is driven by a high torque hydraulic motor, mounted on a long shaft that is supported by a heavy duty roller bearing. The suction mouth is under the cutter head drive and is aligned with the cutter shape. The cutter teeth are interchangeable for easy maintenance and different conditions or better performance. The teeth can be provided as sharp point, medium edge and wide edge.

**DREDGE PUMP**
The submersible dredge pump is driven by a hydraulic motor and mounted on a heavy duty bearing block with three bearings.

**TILTABLE SPUDS**
Two spuds are placed at the back of the cutter suction dredger to fixate the dredger during operation. The spuds can be hoisted by hydraulic cylinders. Both spuds are tilting manually for easy maneuvering under bridges and for sailing when using the propulsion.

**PONTOONS**
The base of our ECO Cutter Suction Dredgers consists of one center pontoon and two side pontoons. These pontoons are stiffened with longitudinal and cross bars. Between the two side pontoons is a stiffened gantry for hoisting the cutter ladder. The operating cabin is mounted on the center pontoon.

**DREDGE SYSTEM**
The stiffened cutter ladder can be extended to a different dredging depth. The cutter ladder is hoisted by a hydraulic operated winch, mounted on the pontoon in front of the cabin. A wear resistant, thick and reinforced rubber hose is assembled between the ladder and the pontoon. Two hydraulic operated winches are mounted on the center pontoon for swinging the dredger. These hydraulic swing winches are connected to the anchors via a heavy-duty tumbler that is mounted on front of the cutter ladder.

**POWER**
The dredgers come with a reliable and efficient diesel driven hydraulic power unit. The diesel engine and hydraulic system are cooled by air radiator.
OPTIONS

PLAIN SUCTION DREDGER
The dredger can be modified to a plain suction dredger by replacing the cutter head and changing the orientation of the winches. This modification can be handled by Dredge Yard on the dredger between projects or before use.

PROPULSION
The cutter suction dredger can be self-propelled by placing two hydraulic high efficiency thrusters on the back of the dredger. The thrusters can be operated from inside the operating cabin.

DREDGING DEPTH EXTENSION
The dredging depth of the cutter suction dredger can be extended by providing an extension piece for the ladder, longer spuds and pontoon extensions.

AUTOMATION AND CONTROL
For performance improvement and easy control, Dredge Yard provides dredgers with automation control. Various types and levels of automation control can be supplied, fitting the customer’s demand and project requirements.

EXTRA’S

DISCHARGE PIPE LINE
A different type of HDPE discharge pipe can be supplied with suitable floaters along with the ECO Cutter Suction Dredger.

TRAINING
If needed, crew training for the cutter suction dredger can be given at location or at Dredge Yard’s facilities. You can request us to train people or improve their dredging skills.

SPARE PARTS
A spare part package and maintenance guidance can be supplied for several years. The spare parts can be supplied at initial purchase of the dredger or after operation. Dredge Yard will strive to keep necessary spare parts in stock to serve customers when needed.
**ECO 300 CUTTER**

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**DIMENSIONS**
- Length overall incl. ladder: 16.4 m
- Length over pontoons: 11.5 m
- Breadth: 4 m
- Height of pontoon: 1.25 m
- Design draught: 0.78 m

**DREDGING PARAMETERS**
- Max. dredging depth (45°): 6 - 8 m
- Suction pipe diameter: 300 mm
- Discharge pipe diameter: 300 mm

**INSTALLED POWER**
- Engine: Caterpillar C13
- Total installed: 310 kW / 415 hp

**WINCHES**
- Swing winches: 2 units
- Wire pull: 30 kN
- Hauling speed: 0 - 20 m/min
- Ladder winch: 1 unit
- Wire pull: 30 kN

**DREDGING EQUIPMENT**
- Cutter: Dredge Yard multi-purpose
- Cutter head power: 35 kW
- Speed: 0-35 rpm
- Dredge pump: Dredge Yard 300
- Wear material: GS32 / high wear resistant

**SPUD SYSTEM**
- Spud length: 7.9 / 9.9 m
- Spud diameter: 273 mm
- Spud leg lifting: 1.9 m
RIVER, CANAL, CHANNEL & HARBOUR
It is important to maintain harbours and keep the waterways open for inland transport & navigation. Dredging is also vital for flood prevention projects.

SETTLING POND
Our ECO dredging equipment is especially designed to clean, desilt and desludge a wide range of industrial settling ponds, holding ponds and lagoons.

RESERVOIR, LAKE & DAM
Reservoirs, lakes and dam dredging should be done regularly, to restore them to their full capacities. Our ECO Dredgers are perfect for these kind of jobs.

WATER INTAKE
Proper and regular maintenance is needed to keep basins clean and the capacity at it’s maximum. Therefore we offer equipment for water intake cleaning & dredging.

MINE TAILING
Our ECO Dredgers are very suitable for mine tailing removal to clean up ponds or dredge ponds to subsequently further process the tailings for leftover valuables.

ENVIRONMENTAL DREDGING
Environmental dredging is to dredge with minimum impact on the environment. The ECO Dredger with auger excavating tools avoids dispersion of pollutants.