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The Aquacleaner Sub Aqua Dredge



Sub-Aqua Dredge in Transit



4" Discharge with 400' of Hose

Aquacleaner Sub-Aqua Dredge: – Aquacleaner Environmental has created a diverse, multi-functional sediment removal machine that is operated from the surface: the “Sub-Aqua Dredge” – This machine is dramatically different from any industrial dredge on the market because it is very portable, doesn’t require priming and can be used with 4”, 6” or 8” discharge lines. This Ultimate Waterfront Restoration machine that is capable of efficiently working through the types of material that is usually found along a shoreline perimeter of lakes and ponds. Aquatic plants, leaves, sticks, and assorted debris are always mixed with the sediment and will bog down most types of dredging systems because the consistency is such that pumps and intakes are continuously getting clogged. Our dredge is the most versatile pumping system manufactured today and can create a slurry mixture over 30% solids.

Introduction: A.E. is the leader in suction dredging technology with over 12 years of experience manufacturing and performing service work with our unique form of dredging equipment and the methodology for its use. We pump thousands of yards a season and offer you a variety of choices in size, configuration and options of our machines that will work best for your individual needs as well as a comprehensive training program that teaches you the “art of dredging” to maximize your productivity. Suction Dredging offers a true form of remediation of your waterfront problems by removing the “AOS” (accumulated organic sediment) with low/short term disruption both in the water and on land.

Science & Dynamics: Dredging is no longer a nasty eight letter word but rather the natural progression in the remediation of your water way because you are removing the biomass and nutrients that have accumulated over the years in an environmentally sound manner. Firming up the bottom and removing the layers of fragments of invasive plants along with the organic silt has been shown to reduce the growth of invasive plants and prevent algae blooms. Our machines are designed to only extract the soft organic material and not change the natural hardpan contours of your bottom. Natural bottoms can be deepened as well depending on their consistency.

How It Works: The traditional method for removing soil entailed having a large construction excavator operate either from your dock or out on a barge. This process is imprecise and not very effective. Scooping large volumes of soil from a water way is intrusive, disrupting the ecosystem in the water and up-land nor does it afford a close tight cleaning. Pumps are the preferred method of dredging but the norm in the industry is very large, aggressive machines, which move huge amounts of water (2500gpm and up) and low percentage of solids thus making it harder to manage the discharge on land, in a small-contained area like the backyard of your lakefront property.

Suction Dredging operates by sucking up silt and water together (slurry) and pumping it to a desired location. The most cost effective method involves pumping the material into a field or creating a silt pond and letting the water and sediment dissipate and be absorbed into the ground, or returned to the source. Our second option is to pump the silt and water into a dewatering bag that sits on site. Because we pump a low volume of water, and a high concentration of solids, we are able to contain, separate and manage the spoils and return water with ease. The remaining water slowly leaches out and over a short period of time, the silt contained in the bag will harden and can then be removed.

THE SUB-AQUA DREDGE vs HYDRAULIC DREDGES

Portability – Traditional Hydraulic dredgers are transported by semi's and require construction equipment to place them in the water, thus adding a large cost to the initial mo and de mobilization of a project. Our Sub-Aqua dredge is mounted on a pontoon boat and trailer and can be placed in the water with ease in almost all scenarios.

Operation – Hydraulic dredgers need to be primed in order to operate, a task that can be challenging and time consuming. Our machine does not need to be primed, simply lower head into the water and engage the PTO and commence pumping operations.

Creating Slurry – Hydraulic pumps create slurry's through Auger or Cutter heads which stirs a large plume underwater and then extracts it with the intake. We use high pressure water directed in an area that surrounds our dredge head. This provides a heavier concentration of solids with minimal turbidity.

Discharge – Our machine offers true diversity in the ability to match the dynamics of your project with mass efficiency. You can choose a 4", 6" or 8" discharge based on distance, elevation and quantity.

Components:

Dredge Pump – The strength of our dredging system starts with our unique shaft driven pump that is mounted on a 10' boom. It is an open pump (large blender) with a simple volute that allows 4" spheres to pass through it.

Engine – Our pump's standard configuration comes with a 60Hp Deutz Diesel Engine with full support gauges, NACD PTO, which is connected to the pump through a series of belts and pulleys. The entire system is mounted on a steel frame that allows for simple maintenance.

Pontoon Boat – A 24' (4) Section Marlex Plastic Pontoons with 6000lbs of buoyancy is tethered across a work zone with 2 electric winches.

Boom Operation – 10,000lb Winch Operates the dredge head using a portable hand control to raise and lower the boom.

Capacities – You can pair the volume of material to be pumped with the distance and elevation of your work zone and maximize productivity of your project.

4" – Pumping distance up to 2000' with minimal lift. Volume ranges between 15-20cyds/hour

6" – Pumping distance up to 1400' with minimal lift. Volume ranges between 30-40cyds/hour

8" – Pumping distance up to 1000' with minimal lift. Volume ranges between 40-60cyds/hour

Options – We offer a variety of options that can aid in the use and add productivity to your daily dredging operations, and will be happy to custom build your accessories based on a better understanding of your individual project requirements and goals.

Refuge barge - Available in several sizes and gives you a place to store the assorted debris you will encounter.

Turbidity curtain - Contains turbid water & potential fragments while being compliant with states requirements

Training – A.E. offers a comprehensive training program with delivery of your machine as well as options for project management