

Kilmihil, Co. Clare, Ireland.

Tel: +353 65 9050090

Fax: +353 65 9050399

Email: info@lmkeating.ie

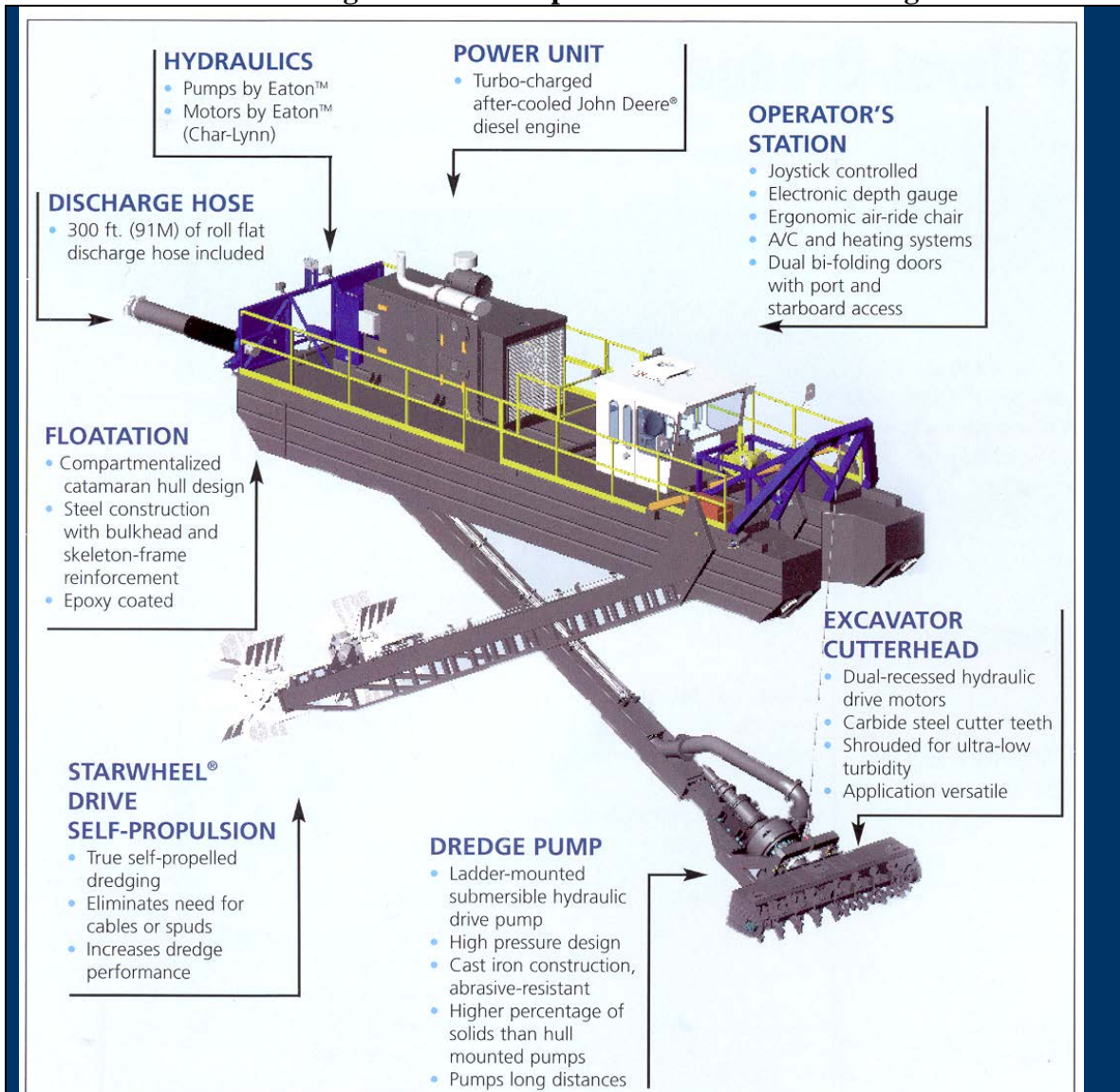
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VERSI-DREDGE 7012

Working in Foynes Yacht Club



Versi-Dredge 7012 Self Propelled Cutter-Suction Dredge



Manufactured by the IMS Dredge Company of Wisconsin USA this is the largest range of their road-transportable, cutter suction dredgers. The machines feature a unique starwheel drive system which allows it to travel on the water as a “paddle wheeler” at up to 3 knots and then by dropping the wheels on the bed, to firmly locate itself in position for dredging, and precise maneuverability.

The vessel size is 12m x 3.6m wide, with a draft of 900mm it has a working depth of up to 9m, and because the cutter head is the full width of the pontoon, it is capable of entering its own cutting on a single pass.

The cutter head may be configured as an excavator for mud, peats, sands, and gravels, or a weed cutter for cutting, maceration and disposal of growing matter. The high pressure dredging pump is capable to handling solids up to 75mm diameter, and delivering dredged material up to 1500m in a 300mm pipeline.

Dredging rates range from 100m³ to 300m³ per hour, depending on the material and the delivery distance.

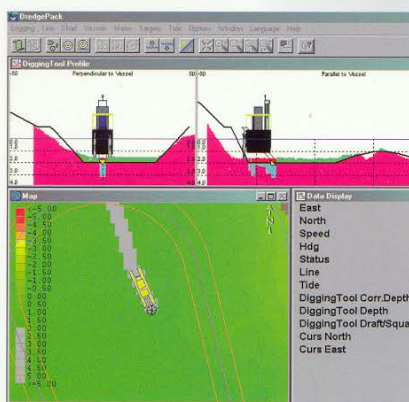
The vessel will be equipped with a dGPS dredge location and recording system, to ensure defined comprehensive coverage of the dredge profile.



The Starweel Drive self-propulsion system consists of two independently driven paddle wheels that the operator can lower and raise independently of each other. Both Starwheels are variable speed allowing the dredge to turn around in place inside the confines of a narrow waterway. On the surface, the Starwheels act as paddle wheels allowing the dredge to proceed into its cut in light materials like sludge and soft mud. On the bottom of a waterway, the Starwheels act as a positive traction drive system using the edges of the paddles to grab the bottom and use positive force to propel the dredge forward in sand, mud and heavier materials. The Starwheels provide heavy torque that can be felt in the operator's chair so the operator knows when he is in the cut and moving forward into the material. The Starwheels can be lowered and operated down to the maximum digging depth of the dredge.

Excavator Cutterhead

The IMS Excavator cutterhead, which comes standard on every Versi-Dredge, is a unique design that uses carbide tipped teeth to aggressively cut through the material and direct the flow straight to the pump. The system provides more cutting force and can draw in more solids than conventional spiral augers with wider cutter bars that can actually restrict slurry flow to the pump when fully submerged. The cutterhead is mounted inside a shroud that significantly reduces turbidity, unlike conventional cutterheads which allow the particles to flow unrestricted into the water column. The Excavator is powered by two high-torque direct drive motors that give the Versi-Dredge the extra edge over the competition. Since the Versi-Dredge is commonly used in applications where large metallic and organic debris can be found, the system is safe-guarded with a pressure relief valve that will automatically shut the cutterhead down to prevent damage to the dredge. The Excavator cutterhead shroud also comes standard with a removable rock guard that allows the operator to restrict the size of debris that can enter the pump volute. This can reduce downtime when dredging in heavy debris that might clog the pump.



Weedmaster Cutterhead

The optional IMS Weedmaster cutterhead is a proprietary design that uses aggressive cutter knives that shear heavy vegetation and mulch it prior to sending it to the dredge pump. The Weedmaster cutterhead can be used in standard pipeline mode or can be used with the IMS Broadcaster attachment which sidecasts the material to the shore in an arc that can reach up to 100 feet (30m). This unique cutterhead converts the Versi-Dredge into an aquatic weed harvester. The cutterhead bolts on in place of the standard cutterhead using simple hand tools (a modified impeller may be required depending on the thickness of the vegetation). The Weedmaster makes the Versi-Dredge a multi-task machine and allows the dredge to remove a weed cover prior to dredging. The Weedmaster also saves the end user money since it is often 70 to 90 percent less expensive than purchasing an additional conveyor type harvester which can't reach the cutting depth of the Weedmaster.

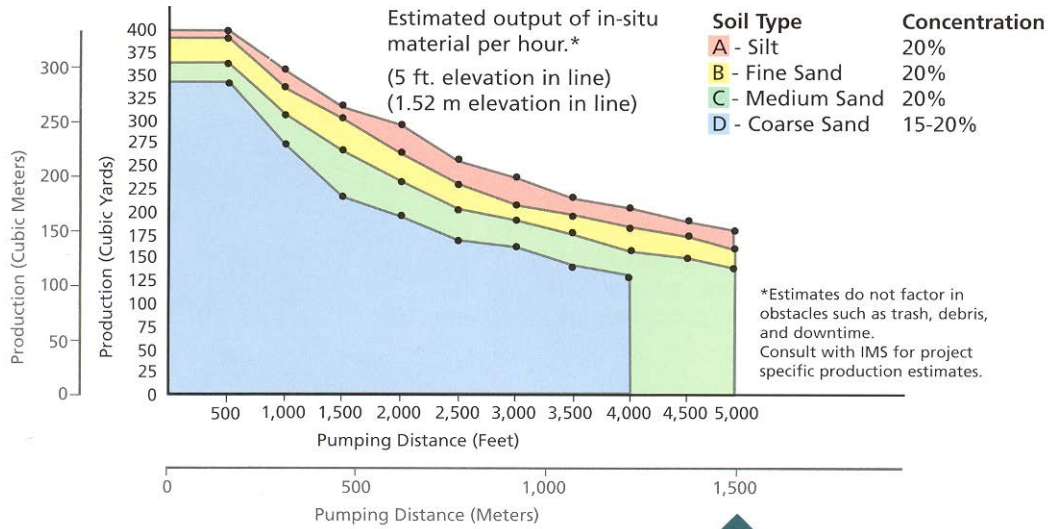
Broadcaster Attachment

The optional IMS Broadcaster attachment allows the dredge to quickly discharge the dredged material on the shore. This can be highly beneficial when dredging an emergency boat channel, wetlands creation or vegetation removal in rural canals. The Broadcaster fits directly at the end of the dredge ladder replacing the discharge line. The Broadcaster narrows the discharge diameter of the ladder creating a high-pressure cannon that can shoot silt, sand and vegetation up to 100 feet (30m) away depending on the percentage of solids.

GPS System

The optional IMS GPS system allows the operator to keep track of the dredge's position with sub-meter accuracy. This is ideal for large lakes & rivers where keeping track of the cuts can be tricky. Additional software can be added to keep track of where material has been removed, a feature which is beneficial for contract dredging. The IMS GPS system includes a laptop display mounted in the cab, dual GPS receiver & antennas, submersible pressure transducer for auger depth measurement, installation at the factory, & onsite training & calibration.

IMS MODEL 7012 HP VERSI-DREDGE	
<p><u>Dimensions</u> Length 51 ft. 5 in. (15.7 m) Width 11 ft. 8 in. (3.6 m) Height 10 ft. 5 in. (3.2 m) Weight (less fuel) 49,000 lbs. (22,226 kg)</p> <p><u>Flotation</u> Pontoons: Two pontoons, 45 in. x 43 in. x 468 in. (1,143 mm x 1,092 mm x 11,887 mm); 10 ga. Steel sides and bottom w/ ¼" diamond deck; internal bulkheads & stiffeners; & painted w/ a marine grade epoxy-urethane paint</p> <p>Displacement 60,500 lbs. (27,400 kg) Draft 35 in. (889 mm)</p> <p><u>Working Capacity</u> Cut 126 in. (3,200 mm) wide x 26 in. (660 mm) deep Working Depth 30 ft. (9.1 m)</p> <p><u>Engine</u> Type: John Deere Diesel Model 6125HF070, 6 cylinder 12.5L, 425 HP (317 kw) @ 2,100 rpm.</p> <p>Fuel Capacity 400 gal. (1,516 liters) Fuel Consumption 20.6 gal/hr (79.4 lit/hr)</p> <p><u>Hydraulic Systems</u> Circuit #1 Slurry Pump 7.6 in³/rev 88 gpm (5.55 liter/sec) @4,500 psig</p> <p>Circuit #2 Cutterhead, Boom, Winches & Starwheels. 7.9 in³/rev load sense. 7.9 gpm (4.54 liter/sec) @ 2,500 psig Reservoir 120 gal. (454 liters)</p> <p><u>Filtration:</u> 1 tank mounted return filters with a 3-micron rating and indicator remote charge filter for the slurry pump circuit 3 micron rating and indicator filter</p> <p><u>Cutterhead</u> Cutterbar Diameter: 26 in. (660 mm) Length: 10.5 ft. (3.2m) Replacable hardened steel excavator blades available with paddlebar for materials that are not easily slurried</p> <p><u>Drive</u> Recessed dual hydraulic motor; direct drive with no gear reduction. Speed: Variable to 95rpm @ 2,500psi Torque: 15,100 in-lbs. (1,718N-m) @ 2,500psi</p>	<p><u>Dredge Pump</u> Type GIW Cast Iron LCC-M 250-660 Discharge Diameter 10 in. (254 mm) Suction Diameter 12 in. (304 mm) Impeller Diameter 26 in. (660 mm) Sphere Passage 5.0 in. (127 mm)</p> <p>Pump Performance 5,000 gpm (315 liter/sec) @ 125 ft (38.1m) TDH (slurry s.g. 1.25) @ 760 rpm w/2,000 ft (609 m) discharge length</p> <p><u>Controls</u> Electronic joystick controls are provided in a climate controlled cab</p> <p><u>Propulsion</u> Starwheel Drive Self-Propulsion system; cable drive optional. Starwheels are individually operated for high maneuverability</p> <p><u>Electrical system</u> Voltage 12 volt, negative ground Alternator Output 130 Amp</p> <p><u>Corrosion Protection</u> Standard Paint Superstructure and hull are sandblasted and painted with two coats of marine epoxy suitable for saltwater service. A self healing zinc clad undercoating is applied to above deck surfaces. The cab is made with galvanized steel. Submerged surfaces are top coated with two coats of anti-fouling paint. Average paint thickness is 12 mils minimum.</p>



A Model 7012 HP removes sand from a sand mine in Eastern Florida.



All Versi-Dredge® models come standard with joystick controls and digital gauges for ease of operation.

IMS MODEL 7012 HP VERSI-DREDGE

L&M KEATING LTD
KILMIHIL
CO. CLARE

TEL: +353 65 9050090

FAX: +353 65 9050399

Email: info@lmkeating.ie

Web: www.lmkeating.ie

