

LWT™ PIT HOG® Remote Control Dredging



AUTO SENSE™

Cable stops are set on the traverse cable at the forward and reverse limits of the area to be dredged. When the dredge contacts the forward stop - the unit will automatically stop forward travel, shut down.



RADIO REMOTE SENSE™

LWT has designed this system to allow remote control of the dredging operation with a portable radio system. **RADIO REMOTE SENSE™** controls the functions of speed and direction of the slurry pump, auger and travel, power on/off and the dredging depth. The hand held control panel may be operated at distance

of 2000 feet from the dredging unit, with three revolving lights on board the dredge indicating when the auger, pump, and travel motors are running. As LWT integrates electronic control systems on its PIT HOG™ equipment, this control system may be used to drive either electric or engine power plants.

LATERAL SENSE™

Lateral Sense™ automates the dredges side to side movement with predetermined distances on a steel rail system located on the ends of the lagoon. With the use of Lateral Sense™ the dredge will automatically shift over a preset course prior to starting the next cutting path.

COMBINE SENSE FEATURES FOR TOTAL REMOTE CONTROL BY RADIO

Combine these features for efficient automated dredging, while minimizing labor. The dredge travels forward with the **SOLIDS SENSE™** system controlling production and travel across the pond, while automatically maximizing solids. **BOTTOM SENSE™** protects the pond bottom and follows pond contours. **LATERAL SENSE™** is combined with **AUTO SENSE™** and the other systems described above for complete control cable-free automation. Utilizing these features effectively minimizes the labor requirement and the hands-on intensity of any project while maintaining optimum production levels.



SOLIDS SENSE™

Incorporation of LWT's **SOLIDS SENSE™** solids control dredging system will automatically work to maintain delivery of a constant solids density. Set the desired solids density concentration level from an adjustable range and the control system will continually respond to maintain that level and optimize solids production.

BOTTOM SENSE™

Use LWT's **BOTTOM SENSE™** system to protect pond bottoms and liners. Switch on **BOTTOM SENSE™** and the sensing system will automatically raise the auger head when the bottom is contacted, lower the head when it senses that the bottom is not present, following the bottom contour.

Pit Hog Model PH10-40Hp Electric



Working Depth: 14 feet (4.6m)
Operational Draft: 16" (41cm)
Floatation: Foam filled cylindrical pontoons 30"W x 94"D x 20'-0" O.A.L. x 10 gauge steel (76cm x 2.3m x 6m)
Length: 24'-7" **Width:** 7'-6" **Height:** 6'-10" (7m x 2.3m x 2m)
Weight: Approx. 5900 lbs

Power

460 V, 3 Phases, 60 Hz Electric Power Standard
Submersible Pump - 40 HP (30Kw)
Hydraulic System Motor - 10 HP, TEFC (7.5Kw)

System Control

Wireless Remote Control, Slurry Pump Off/On
Auger On/Off, Travel Forward/Off/Reverse,
Travel Speed, Hoist Up/Off/Down
Pump Speed (W/VFD)

Slurry Pump 40Hp

40Hp (30Kw) 4x6x11
Pump w/Submersible Motor (10cm x 15cm x 28cm)
Centrifugal, Solids Handling Impeller
Basic Construction - Cast Iron or HC600 High Chrome
900GPM @ 50ft head (water)
Pump Speed - 1750 rpm
Suction Diameter - 4" (15cm)
Discharge Diameter - 6" (15cm)
Impeller Diameters - 8 1/2" (27cm)
Sphere Size - 4" (max) (10cm)

Auger Head

Welded Steel Construction with dual drive hydraulic motors
Helix . . . 10"Dia. x 9" Pitch x 3/8" Thick Flighting
(25cm x 23cm x 9.5mm)
Speed: 60 rpm
Torque: 3200 in lbs
Length (Overall): 8' x 10 1/2" (2.75m)

Propulsion

Hydraulic Power Treble Sheave Endless Winch
3/8" Diameter Wire Rope (9.5mm)
Traverse Speed Variable from 0 to 30 FPM

Pit Hog Model 727 225Hp Diesel



Working Depth: 15 feet (4.6 m)
Hull: Catamaran Design; two foam filled pontoons 30"W x 37"D x 27'-0" O.A.L. (0.76 x 0.94 x 8.23 m)
Constructed from 10 gauge steel plate with formed external ribs and internal bulkheads.
Weight: Approx. 21,485 lbs Dry
Operational Draft: 27" (685 mm)
Total Length: 30'-5" (9.27 m)
Transport width: 8'-5" (2.57 m)
Height: 9'-4" (2.84 m)

Power

John Deere Diesel Engine: 6 Cylinder Model
6068H, Turbocharged
Power Rating: 225hp @ 2200 rpm
Fuel Capacity: 180 Gallons

Pump

Centrifugal, Recessed Impeller Pump
Dredge Pump Speed - Variable to 1180rpm
Typical Head-Capacities:
2000GPM @ 120 ft TDH (Sp. G. 1.0)
2500GPM @ 85 ft TDH (Sp. G. 1.0)
Suction and Discharge: 6" x 6" (152 mm)
Impeller size: 18" (457 mm)
Sphere size, inches (max) 6" (152 mm)

Auger Head

Welded Steel Construction with dual drive hydraulic motors
Helix . . . 10"Dia. x 9" pitch x 3/8" thick Flighting
(25cm X 23cm X 9.5mm)
Speed . . . 80 RPM
4200 In.Lbs. Torque
Length, Overall . . . 8'-10 1/2" (2.75m)

Propulsion

Hydraulic Power Treble Sheave Endless Winch
Wire Rope Diameter, 3/8 inches (9.5mm)
Traverse Speed—0 to 60 FPM
Cutting Speed, Nominal 0 to 12 FPM

Pit Hog Model 737 275Hp Diesel



Working Depth: 15 feet (4.6 m)
Hull: Catamaran Design; two foam filled pontoons 33"W x 40"D x 37'-0" O.A.L. (0.84 x 1.01 x 11.28 m)
Constructed from 10 gauge steel plate with formed external ribs and internal bulkheads.
Weight: Approx. 31,485 lbs Dry
Operational Draft: 27" (685 mm)
Total Length: 42' (12.8 m)
Transport width: 9'-5" (2.86 m)
Height: 9'-4" (2.84 m)

Power

John Deere Diesel Engine: 6 Cylinder Model
6081H, Turbocharged
Power Rating: 275hp @ 2000 rpm
Fuel Capacity: 350 Gallons

Pump

Centrifugal, Recessed Impeller Pump
Dredge Pump Speed - Variable to 880rpm
Typical Head-Capacities:
3200GPM @ 100 ft TDH (Sp. G. 1.0)
4500GPM @ 80 ft TDH (Sp. G. 1.0)
Suction and Discharge: 8" x 8" (203 mm)
Impeller size: 22" (559 mm)
Sphere size, inches (max) 8" (203 mm)

Auger Head

Welded Steel Construction with dual drive hydraulic motors
Helix . . . 10"Dia. x 9" pitch x 3/8" thick Flighting
(25cm X 23cm X 9.5mm)
Speed . . . 100 RPM
10,000 In.Lbs. Torque
Length, Overall . . . 8'-10 1/2" (2.75m)

Propulsion

Hydraulic Power Treble Sheave Endless Winch
Wire Rope Diameter, 3/8 inches (9.5mm)
Traverse Speed—0 to 60 FPM
Cutting Speed, Nominal 0 to 12 FPM

Liquid Waste Technology, LLC.



LWT™ PIT HOG®
DREDGE



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About LWT

Liquid Waste Technology, LLC.

Liquid Waste Technology, LLC. (LWT) specializes in the design and manufacture of custom solutions for the dredging industry. LWT builds high quality computer and remote controlled portable dredges uniquely equipped for a variety of applications including:

- Wastewater Lagoon Dredging
- Water Treatment Plant Maintenance
- Mine Tailings
- Canal Dredging
- Dredging w/ Geo-Tubes
- Lake & Pond Dredging
- Marina Maintenance
- Sand Dredging
- Dredging Mud and Silt

LWT has designed the **PIT HOG™** Remote Control Electric Lagoon Pumper (MODEL PH10-40Hp) and 700 Series Diesel Dredges with quality components for dependable, easy operations and builds it with structural steel for dependable, long term use.

Utilizing Electric or Diesel power; Manned or Unmanned; Computer or Manual Controls - LWT and its Pit Hog Dredge Line can produce unparalleled, economical and efficient transmission of waste products.

Visit WWW.LWTPITHOG.COM for more information.



Engineered Design Purpose Built

LWT builds every dredge with quality components engineered to operate efficiently in a variety of applications and processes. We tailor our dredges to accommodate our customer's specific needs. Our **PIT HOG™** 700 Series Diesel Dredge and Remote Control Electric Lagoon Pumper (MODEL PH10-40Hp) will accept a variety of configurations to maximize performance in terms of flow, solids handling and degree of automation - to name a few. Our engineers work with our customers to build the right machine for the job.



LWT Service

At Liquid Waste Technology, LLC., we distinguish ourselves from other companies by going that extra mile to assist and serve our valued customers. We maintain a knowledgeable and talented staff of field service technicians which are supported by our in-house engineering staff and field trained management. We understand that - should you experience a breakdown - time is of the utmost importance.

LWT's Customer Service team excels at finding solutions to get you back up and running as quickly as possible.

Additionally, LWT maintains a strong network of professionals in related industries and can assist you in finding the help you need on a difficult project. At Liquid Waste Technology, LLC., customer relationships last a lifetime.

Electric Dredges

LWT designs the **PIT HOG™** Remote Control Electric Lagoon Pumper (MODEL PH10-40Hp) with quality components for dependable, easy operations and builds it with structural steel for dependable, long term use.

The **PIT HOG™**, an electrically powered remote controlled dredge, is designed to remove sediments from the bottom of waterways, ponds, and settling lagoons. In situ solids are excavated and transported as slurry through a piping system to a remote location.

The **PIT HOG™** Remote Control Dredge can be automated with a PLC (programmable logic controller). The PLC is programmed to provide control over the dredges automated functions and control loops, minimizing labor and maximizing production of solids at the set flow rate.



Diesel Dredges

LWT's **PIT HOG™** 700 Series Diesel Dredge includes an industrial diesel powered hydraulic power unit, throttle controlled, hydrostatic high pressure circuit driving a submersible hydro-solids pump with a minimum 6" solids handling capacity.

Direct driven, hydraulic function circuits for the horizontal auger head, triple sheave traverse winch drive, and auger head cylinder controlled elevation linkage are independent and electronically controlled.

Our flotation system is comprised of baffled steel 10 gauge pontoons, filled with two pound density foam and matched with a heavy duty structural steel frame, then coated with epoxy paint.

A comfortable heated operator cab includes instrumentation components and controls on all circuits.



LWT™ PIT HOG® Automated Systems

CONCEPT FOR AUTOMATED SOLIDS CONTROL DREDGING

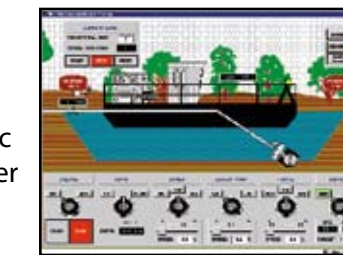
Totally automated, and remote operations are achieved with low voltage electronic controls. A PLC (programmable logic controller) is programmed to provide control over the dredges automated functions and control loops, minimizing labor and maximizing production of solids at the set flow rate. This system is ideally suited for providing material to both de-watering or continuous process systems. LWT supplies components and will provide customized operational features to meet your specific operational needs.

AUTOMATIC REMOTE CONTROL DREDGING

Settled solids are excavated from the lagoon bottom by the LWT dredging unit which may be operated either remotely on shore and/or manually on board. The units forward and reverse travel, as well as its side to side lateral movements, are totally automated by a steel rail system located on the ends of the lagoon.

AUTOMATIC SOLIDS AND FLOW CONTROL

The solids/flow control system is also controlled by the PLC. The dredge travel function is electronically linked to the density meter providing an electronic signal proportional to the density of the slurry, to the PLC. The PLC control loop compares the incoming signal to the adjustable solids set point and continuously regulates the solids delivered by the dredge. The same principle is used to regulate the flow volume. An electronic magnetic induction flow meter provides feedback to the PLC control loop which, in turn, regulates the flow delivered from the dredge slurry pump.



DISPLAY AND CONTROLS

With a lap top computer or desk top computer, the owner can observe a visual graphical image of the system's entire operations while working, and record operating data.

Controlled by the PLC, the electronic control system directs the dredge to make "sweeps" covering the entire lagoon, automatically without an operator. The dredge is programmed to travel forward at a controlled speed, taking eight foot wide passes through the solids bed. When the

dredge comes to the end of the run it raises the auger head and slows the pumping rate then automatically goes into high speed reverse. The dredge travels until it reaches the initial starting point for that pass. The dredge then shifts laterally to the starting point of the next pass, lowers the auger head, restores the slurry pump speed and moves forward to continue dredging.

The NEMA RATED CONTROL PANEL

for the Automated Rail Lateral Move System has displays and input controls for the speed and direction of the slurry pump, auger and the traverse system. An alpha-numeric readout displays slurry density, slurry flow rate, and shutdown fault messages. The display may optionally show the location of dredge in the pond, depth of operations, slurry pump pressure or other required functional feedback data. This system is compatible for a continuous process system or supplying material to a tank for batch feeding a dewatering system. For a batching application, level monitors may signal the dredge to run until the tank is full, then turn off until the low level sensor signal turns the dredge back on again.

