

8-Inch Swinging Ladder Dredge Specifications

GENERAL:

| | |
|--|------------------|
| Length – Overall w/ Ladder | 56’-6” |
| Width – Hull, Overall | 10’-0” |
| Width – Shipping, Overall | 10’-6” |
| Height – Overall (Without spuds) | 11’-6 1/2” |
| Height – Overall (Shipping) | 10’-0” |
| Dry Weight (Estimated) | 51,000 Lbs. |
| Average Draft (Estimated) | 2’-4” |
| Fuel Capacity (3” Air Space) {Two Independent Fuel Tanks} | 250 U.S. Gallons |

HULL:

| | |
|---|--------|
| Length | 49’-4” |
| Depth | 3’-6” |
| Width | 10’-0” |
| Built-in Ballast Tanks at Four Corners | |
| Minimum Exterior Steel Plate Thickness | 3/16” |
| Four (4) Lifting Lugs for lifting complete dredge | |

DIESEL ENGINE:

John Deere Model 8.1 L 6081HF070 Turbocharged Diesel Engine – Radiator cooled

Continuous Power Rating – 325 HP @ 2200 RPM

12V DC Electrical System

Engine Control Panel w/ Digital Read-outs in Operator’s Cab

DREDGE PUMP:

8” Diameter Suction x 8” Diameter Discharge-Hull Mounted

19.5” Diameter 3 Vane Impeller – Thread Mounted on a Heavy-Duty Shaft

Wet End Parts (Impeller, Casing, Suction Cover and Replaceable Rear Liner – 28% High Chrome Alloy Cast Iron (600 BHN Minimum)

Oil Lubricated Bearing Assembly w/ Lip Seal
Rope Packing on Pump End with Water Flush
Anti-friction Roller Bearings for thrust and radial loads

Typical Operating Point – 3,000 GPM @ 150’ of Head (water) @ 1132 RPM

Efficiency @ Typical Operating Point – 77 %

Maximum Sphere Size – 3.625”

CUTTER HEAD:

| | |
|---------------------|--------------------|
| Cutter Diameter | 27” |
| Number of Blades | 5 |
| Cutting Blade Edges | Replaceable Blades |
| Shaft Diameter | 2 ½” |
| Torque Rating | 31,500 Lb.-In. |
| Speed Range | 0 – 40 RPM |
| Cutter HP | 25 |
| Cutting Force | 2,250 Lb. |
| Unit Cutting Force | 75 Lb./ Inch |

DREDGE RANGE:

| | |
|------------------------------------|---------|
| Minimum Digging Depth | 2' - 4" |
| Maximum Digging Depth | 15' |
| Width of Cut @ 2'-4" Digging Depth | 22'-0" |
| Width of Cut @ 15' Digging Depth | 18'-3" |

LADDER SWING CYLINDER:

| | |
|--------------------|-----------------------|
| Nominal Size | 6" Bore x 18" Stroke |
| Rod Diameter | 2 ½" |
| Style | Connecting Rod End(s) |
| Burst Pressure | 7,500 PSI |
| Operating Pressure | 2,500 PSI |

LADDER HOIST CYLINDER:

| | |
|--------------------|-----------------------|
| Nominal Size | 6" Bore x 30" Stroke |
| Rod Diameter | 2 ½" |
| Style | Connecting Rod End(s) |
| Burst Pressure | 7,500 PSI |
| Operating Pressure | 2,500 PSI |

KICKER SPUD CYLINDER:

| | |
|----------------|-----------------------|
| Nominal Size | 6" Bore x 10" Stroke |
| Rod Diameter | 2 ½" |
| Style | Connecting Rod End(s) |
| Burst Pressure | 7,500 PSI |

Rated Operating Pressure 2,500 PSI

SPUD HOIST WINCHES:

Type High Performance, High Efficiency Planetary Hydraulic Winch

Line Pull (First Layer) 3,326 Lb.

Line Speed (Up and Down) 83 FPM

Maximum Operating Pressure 2,500 PSI

Wire Rope Diameter & Type 1/2"- 6 x 19 Galvanized Wire Rope

HYDRAULIC SYSTEMS:

Pump Drive Double Pump – Engine-Direct Drive

Circuits Dredge Pump (Closed Loop)
5,000 PSI Max. Continuous Rating
5,500 PSI Relief Pressure Setting

Cutter Head & Auxiliary
2,500 PSI Continuous Rating
2,800 PSI Relief Pressure Setting

Circuit Type(s) Dredge Pump - Closed Loop Hydro-Transmission
Auxiliary Controls – 8 Bank Proportional Directional Control
Valve(s)

OPERATOR'S CAB:

Construction Steel Galvannealed Sheet Wrapper w/ Steel Tubular Frame,
Sound Attenuating Foam Insulation on Walls and Ceiling
and Tinted Safety Glass Windows. Bi-fold door on both
sides of cab.

Heating/Cooling Roof Mounted Air Conditioner w/ Hot Water Heater and
Fan

Engine Control Panel Diesel Engine Control Panel with Read-Outs including Speed Control, Tachometer, Oil Pressure, Coolant Temperature, High Temperature & Low Oil Pressure Shut-Down

Controls Individual “Finger Tip” Control Switches

- Dredge Pump On/Off & Speed
- Cutter Head Fwd/Off/Rev & Speed
- Ladder Swing Cylinder, Starboard/Off/Port & Speed
- Ladder Hoist Cylinder, Up/Off/Down
- Starboard Spud Hoist Up/Off/Down
- Port Spud Hoist Up/Off/Down
- Kicker Spud Hoist Up/Off/Down
- Kicker Spud Fwd/Off/Rev
- Service Water Pump On/Off

Lighting Front & Rear Work Lights
Interior Cabin Light

Instruments Gauges

- Slurry Pressure & Vacuum Gauges (Dial type)
- Hydraulic Pressure Gauge, Dredge Pump Circuit
- Hydraulic Pressure Gauge, Cutter Head Circuit
- Hydraulic Pressure Gauge, Auxiliary Circuit(s)

Options: Windshield Wiper and Horn

SAFETY EQUIPMENT:

Two Fire Extinguishers and Two Life Vests. Life Ring with Rope is optional.

COATING SYSTEM:

All underwater parts are given two coats of marine epoxy primer followed by a marine urethane top coat. Above water parts are first coated with a zinc rich primer followed by a marine epoxy primer and top coated with acrylic polyurethane. The deck is also given an anti-skid surface. The minimum paint thickness for below and above water coatings is 12 mils, not including OEM coatings.

These specifications are representative of a typical swinging ladder dredge design, but are subject to change at IMS’s discretion when necessary to update the product and to provide the best available technology that optimizes dredge performance, improves quality and best satisfies our customer’s needs.