WOLVERINE

GENERAL INFORMATION

Hull Length .....50′ (15.2 m)
Overall Length (with ladder) .....63′ (19.2 m)
Hull Depth .....4′ (1.2 m)
Hull Width .....11′ -6″ (3.5 m)
Hull Draft (approx) .....2′ (0.6 m)
Overall Height (trucking) .....10′ (3.1 m)
Total Dry Weight (approx) .....56,000 lb (25,402 kg)
Diesel Fuel Capacity .....500 gal (1,893 liters)

The Wolverine class dredge is 63′ in length and is offered in a 10″ discharge configuration with a 425 hp John Deer diesel engine. The Wolverine can dig up to 25 feet below the surface and allows for a maximum particle clearance of 6″. This tough yet portable design is perfect for the light contractor and is fully functional by one person.

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W&S
A Division of
Better Dredges, Inc.

WOLVERINE CLASS
10x10 Cutterhead Dredge
Preliminary Specifications

DETAILS OF HULL CONSTRUCTION

The hull is composed of three (3) compartments. The center compartment is the engine and pump compartment. The other (2) two compartments are the side tanks; also know as sponson tanks or pontoons. The side tanks are framed with angle iron and truss type cross bracing. The plate is then welded inside and outside for structural integrity. The tanks are pressure tested for leakage. The side tanks are assembled to form the engine and pump compartment. The hull is turned right side up and the interior bracing is installed to accept the mounting of the engine, pump and other components. The bottom of the hull is constructed from 3/16" plate (4.76 mm). The hull sides and deck are constructed from 10 gauge plate (3.57 mm). The lever room and the pump/engine room enclosure are constructed from 12 gauge plate (2.78 mm).

DETAILS OF LADDER CONSTRUCTION

The ladder is constructed of 3" x 3" x 3/16" (7.62 cm x 7.62 cm x .48 cm) angle iron with a 10 gauge (3.57 mm) metal plate gusset. The gussets are welded to the side of the ladder for structural integrity, resistance against bending, torsional loading and transverse stresses. The ladder length is 33' (10.1 meters).

OPERATING DETAILS

The maximum dredging depth is 25' (7.6 meters) and is achieved at a 60° down angle on the ladder. The maximum lateral cut, swinging 90°, at approximately 3' (1 meter) of dredging depth is 88' (26.8 meters). The lateral cut, swinging 90°, at a 25' (7.6 meters) dredging depth is approximately 72' (22 meters).

CUTTER HEAD

The cutter head is designed with six (6) smooth blades that are cast steel. The cutter head is mounted to a 3" (7.62 cm) stainless steel shaft that is attached to the cutter motor. The cutter head is driven by a five (5) cylinder Staffa hydraulic motor, model #HMB-200. The cutter head motor is manufactured by Kawasaki Motors. The hydraulic motor has variable speed capability and is reversible. Replaceable pin on teeth can be added to the cutter head as an option. The cutter head has a 27" (68.6 cm) inside diameter back ring with an outside diameter of 32" (81.3 cm).

ENGINE

The prime mover is a John Deere 425 hp (317 kW) 12.5 liter diesel engine. The engine is attached to a Twin Disc clutch. The engine is radiator cooled and includes a John Deere air cleaner, muffler and gauge package. The engine meets Tier II compliance criteria.

DREDGE PUMP

The dredge pump is a Metso Minerals, Thomas Simplicity series dredge pump, model #J30. The pump is rated 200' TDH @ 4200 GPM (61 meters TDH @ 265 liters per second). The maximum particle clearance is 6" (15.2 cm).

SERVICE PUMP

The service pump is provided to supply flushing water to the dredge pump packing gland, water to the cutter drive bearings and for use at a deck connection. The pump is a 2½" x 2" (6.4 cm x 5.1 cm) and is rated 75 psi @ 125 GPM (7.9 liters per second).

HYDRAULIC SYSTEM

The hydraulic pump is a 4-section pump that provides service to the cutter head motor, swing winches, spud winches and ladder winch. The hydraulic system is protected by relief valves and the system has replaceable inline filters. The hydraulic system has an approximate capacity of 100 gallons (379 liters).

HOISTING

Hydraulic winches are used for swinging the dredge, lifting the spuds and lifting the ladder. All five (5) winches are rated 7,000 lb (3,175 kg) line pull capacity. All winches are complete with galvanized cables. The swing winches are equipped with 150' (45. 7 meters) of ½" (1. 27 cm) 6x37 cable.

SPUDS

Two (2) spuds are located on the stern of the dredge. The spuds are 8-5/8" (21.9 cm) diameter x 30' (9.4 meter) long.

ELECTRICAL SYSTEM

The electrical system consists of a 12-volt 65-amp alternator and a 240 amp/hr battery. The wiring is a complete circuit with one (1) wire to ground through a full breaker panel. The lighting consists of seven (7) floodlights that are mounted on the dredge. Lighting is also provided in the engine/pump compartment, on the instrument panel and overhead in the lever room.

LEVER ROOM

The lever room measures 5'-9" *wide* x 6'-5" *long* x 6'-2" *high* (1.75m x 1.96m 1.88m). All glass is LEXON 500 with 360° visibility. The control panel has stainless steel gauges. An upholstered seat is provided for the operator. The lever room is insulated to reduce noise and for temperature control. The lever room is finished with a paneled interior.

ENGINE/PUMP COMPARTMENT

The engine/pump compartment is equipped with sliding lockable doors. This allows for easy access and is a deterrent for vandalism. The roof is removable for major service of the dredge pump or diesel engine. General maintenance can be accomplished by use of the Ibeam. This compartment is equipped with four (4) floodlights.

SAFETY EQUIPMENT

Machinery guards are installed over all belts and shafts. Handrails consist of two (2) strands of steel chain between removable posts. A fire extinguisher and bilge pump are provided. The decks are painted with anti-skid paint.

PREPARATION AND PAINT

All exposed hull and lever room surfaces are sandblasted before the primer coats are applied. The hull is painted with coal-tar epoxy. The superstructure is painted blue with a white stripe using an epoxy paint.