



This electric DSC Marlin Class dredge was originally manufactured in 1999. The original design specifications are noted below. This is a light duty Marlin that is well suited for tailings applications and finer materials. The dredge is capable of having minor modifications based on the buyers requirements including the following:

- dredging depth
- dredge pump size
- dredge pump power

The dredge has not been fully refurbished so availability will be contingent on final design requirements. This dredge is currently located at DSC's Reserve, LA facility. The price is subject to the final dredge configuration and requested modifications.

Refurbished
10" Marlin Class Dredge "Nimitz"
Model MA-4250-35-30ESP
in Original Configuration

Preliminary Specifications

General

Original Year of Manufacture	1999	
Job No.	2015210	
Overall length (with ladder)	64'	(19.5 m)
Overall width	22'-6"	(6.9 m)
Hull depth	4'	(1.2 m)
Mean draft	30"	(0.8 m)
Ladder length overall	40'	(12.2 m)

Hull

Side tanks	50' x 5'-10" x 4'	(15.2 m x 1.8 m x 1.2 m)
Center Section	20' x 10'-10" x 4'	(6.1 m x 3.3 m x 1.2 m)
Overall dimensions - assembled	50' x 22'-6" x 4'	(15.2 m x 6.9 m x 1.2 m)

Operating Conditions

Minimum digging depth	4'	(1.2 m)
Maximum digging depth	30'	(9.1 m)

Submerged Dredge Pump

The dredge pump design is a hydraulically driven underwater dredge pump. The dredge slurry piping is 12" (300 mm) suction diameter and 10" (250 mm) discharge diameter. The impeller diameter is 26" (660 mm).

Cutter Drive Assembly

The cutter drive is manufactured by DSC and utilizes a planetary reduction gear and hydraulic motor. The cutterhead is a 31-1/2" ID (800 mm) serrated edge cutter fitted with weld on replaceable edges. The cutter drive is rated 35 HP (26 kW) and has a variable speed range of 0-30 RPM.

ELECTRICAL EQUIPMENT

The control center is an outdoor type with full voltage non reversing starters. The starters have local start and stop with a red pilot light. The following equipment is included.

- 300 HP (224 kW) underwater pump motor with starter
- 100 HP (75 kW) cutter and winch pump motor with starter
- 40 HP (30 kW) service water pump motor with starter
- 5 KVA 460V to 120V/208V lighting transformer
- 5 kV 600 AMP main disconnect
- Ground fault system
- 500 kVA, 4160V to 460V transformer with copper winding

Swing Winches

DSC model RMLF095 hydraulic planetary winch rated 8,000 lb (35.2 kN) bare drum line pull. The line speed is 100 fpm (30 m/min) and the winch utilizes a 9/16" (14 mm) wire rope.

Stern Winch

DSC model RMLF095 hydraulic planetary winch rated 8,000 lb (35.2 kN) bare drum line pull. The line speed is 100 fpm (30 m/min) and the winch utilizes a 9/16" (14 mm) wire rope.

Ladder Winch

Pullmaster model M8 hydraulic planetary winch rated 8,000 lb (35.2 kN) bare drum line pull

Hydraulic System

The dredge consists of two (2) systems; open loop and closed loop. The open loop system powers three (3) separate circuits; cutter, swing winches and ladder/stern winch operations. The closed loop system powers the underwater dredge pump. The hydraulic system is protected from contamination by a filtered breather cap, tank mounted suction strainer with magnets and tank return filtration. All hydraulic circuits have pressure gauges and relief valves

to protect for hydraulic spikes. The hydraulic tank is outfitted with a sight gauge, thermometer and a low level sensor to indicate poor operating conditions.

Maximizer Suction Relief System

DSC's maximizer valve is designed to assist an operator in achieving maximum production while reducing the chance of line plugging. It incorporates a valve that is plumbed into the suction of the dredge. This system is automated to respond to suction problems including vacuum (differential pressure) and discharge pressure. The desired points to activate the suction valve can be adjusted through the PLC in order to maximize its productive use.

DSC Intelligent Flow Meter™ (IFM):

The dredge may be fitted with a DSC Intelligent Flow Meter™ (IFM). Coupled with additional PLC programming, the flow meter may be utilized to control a constant flow rate based off user-defined parameters. Utilizing a selected velocity setting, the automated flow control is controlled by the output data from the flow meter controlling the dredge pump motor for automated increase/reduction in speed to hold a constant flow rate. The DSC IFM™ flow meter will also work in conjunction with an optional Maximizer™ suction valve.

Service Water Pump

The service water pump's primary use is for the dredge pump packing gland. The service water pump will also be used as the source for the raw water wash down system and the dredge pump transmission cooling system. The service water pump is of the centrifugal design with a single open end suction protected by a strainer.

Safety

This dredge is supplied with handrails. Equipment guards are provided for the safety of the crew and for compliance to DSC strict building codes. The dredge is equipped with fire extinguishers and a lighted throw ring.

Control System

The DSC control system provides the dredge operator with a simple, ergonomic, and user-friendly interface to efficiently operate the dredge. The system is designed, manufactured, programmed, and tested in house by trained professionals with years of dredge experience. The heart of the system is a PLC capable of monitoring digital and analog inputs, controlling digital and analog outputs, performing automatic loop control, displaying pertinent information, and recording historical data.

The standard dredge control system protects against pump engagement and disengagement at high speed and locks out all hydraulic functions during start-up and control activation. The system also alarms on electrical faults, hydraulic problems, etc.

The standard dredge control system provides electronic operation of the pump engagement, and all hydraulic speeds and directions. Hydraulic controls are ramped to prevent jarring when controls are started, stopped or reversed.

The standard dredge control system records and displays the operating hours of all major dredge systems including major equipment hours, dredge pump, cutter, swing/positioning winches, stern winch, and ladder winch. This data is useful for servicing and for managing dredge utilization.

Additional Features

- ❑ Suction differential pressure transmitter with display (vacuum)
- ❑ Handrails and kick rails
- ❑ Digging depth gauge – electronic
- ❑ Dredge wash-down system
- ❑ Operators chair
- ❑ Lighting
- ❑ Climate controlled lever room

Coatings

The dredge is repainted to OEM specifications

Testing

Once the refurbishing process is complete, the dredge will be fully load tested for all operating equipment.



