DAMEN CUTTER SUCTION DREDGER 250

DREDGING

DAMEN

LIST OF STANDARD EQUIPMENT

HULL AND SUPERSTRUCTURE

- The dredger is dismountable in main pontoon, two side pontoons, operating cabin, cutter ladder and spudpoles, which permits easy transportation in three 40 ft open top containers by road, rail or ship to nearly any location
- Heavy duty coupling system with hooks at hull bottom and bolt connection on deck level, making (dis)assembly on land or afloat possible in a very short time and an easy way
- Two separate engine room hatches for optimal maintenance of engine and dredge pump
- Single bollard on fore and aft at each side of the dredger
- Chequered aluminium floor plates in engine room
- Marine coating system and cathodic protection for inland water use

OPERATING CABIN

- Comfortable, ergonomic designed operating cabin
- Mounted on shock absorbers to minimise vibration and noise levels
- Constructed of steel and well insulated and plated with coated plywood
- Two ergonomic designed control panels with a dredge master chair in between
- Dark tinted windows all around of which one can be opened, providing excellent view of all essential deck equipment
- Window wiper at front- and aft window

DREDGE EQUIPMENT

- High efficiency dredge pump, built up with Ni-hard4 wearing plates and Bainitic Nodulair pumphousing and impeller. The shaft is sealed using a mechanical seal
- The cutter is directly mounted to the slow running hydraulic cutter motor, which is well protected in the cutter unit
- Well designed cutter with replaceable wear resistant serrated- or plain knives
- Straight suction pipe for optimal suction performance and low wearing characteristics
- Inspection pipe piece in front of dredge pump

ENGINE ROOM MACHINERY

- Latest model Caterpillar engine, complying with IMO regulations
- Closed freshwater cooling system for the engine with a box cooler
- Engine can be started from control panel both in engine room and in operating cabin
- Dredge pump driven through a gearbox with electric/ hydraulic clutch, operated from the operating cabin
- Electric driven engine room fan
- Various auxiliary equipment, such as, bilge-, cooling water pumps

DECK EQUIPMENT

- Side wire swing winches operated with constant tension system, guaranteeing a stable cutter process
- Removable railing of stanchions and stainless steel wires

HYDRAULIC INSTALLATION

- All hydraulic motors and cylinders are operated by one variable radial piston pump driven by the diesel engine. The system includes: stainless steel tank, all required electric operated valves, filters, gauges etc

ELECTRIC INSTALLATION

- 24 VDC battery circuit supplied by the alternator of the diesel engine. In engine room distribution board and in operating cabin switch panel for lights etc. All cable connections to dismountable parts with plugs for quick (dis)assembly without possibility of wrong connections.

MISCELLANEOUS

- Mooring lines, life saving equipment
- Set of tools including impeller hook and boatswain's inventory
- Start up spare parts

LIST OF OPTIONAL EQUIPMENT

GENERAL

- □ Decrease or increase cutter depth
- □ Plain suction installation with jet water pump
- □ Swivel connection for discharge pipeline
- □ Jib crane for changing pump-spare parts
- □ Anchors
- □ Air-conditioning
- □ Navigation lights and day signals in mast on top of cabin

DREDGE PUMP

- □ Pump can be casted from various wear resistant materials to meet local dredging circumstances

VALVES IN DREDGE PIPES

- □ Non-return valve in discharge pipe
- □ Hydraulic operated valve in discharge pipe

Further we can modify the design to nearly any requirements

This leaflet is a brief summary from the original specification, which can be sent on request

Specifications are subject to modification without notice.

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DAMEN DREDGING EQUIPMENT

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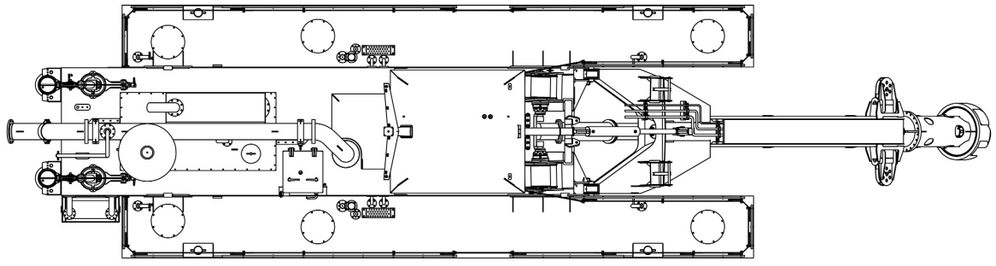

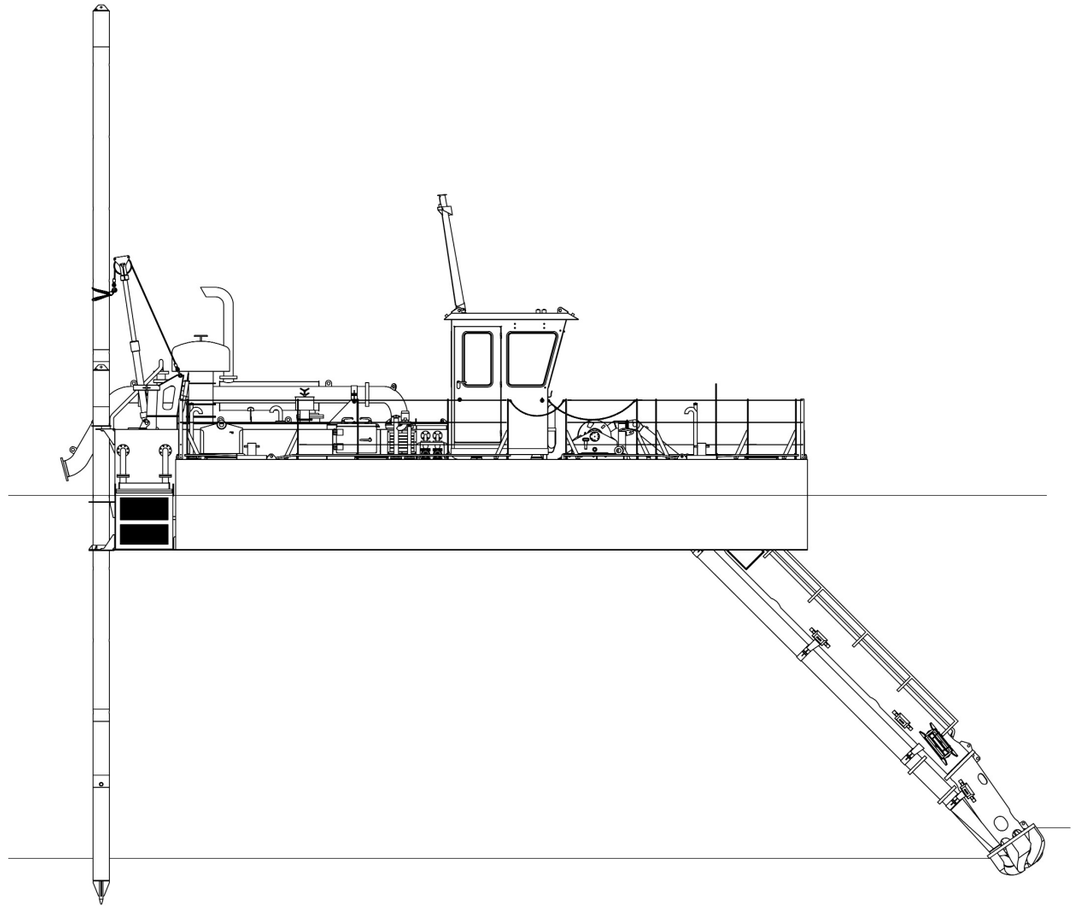

The DAMEN cutter suction dredger - model 250 - is one of the standard models within a range of well proven dismountable cutter suction dredgers. There are several options possible or even the design can be modified to specific wishes in meeting any operational requirement.

BASIC FUNCTIONS

Maintenance dredging
Mining

STANDARD DESIGN FEATURES

Transportable in three 40 ft open-top containers
Comfortable ergonomic designed operating cabin
Well powered, to ensure simultaneous operation of all functions
Highest quality of installed equipment and components to ensure continuous operation

DAMEN CUTTER SUCTION DREDGER 250

GENERAL ARRANGEMENT

DREDGING FEATURES

Min/ max dredging depth	0,5 / 6 m (cutterladder angle of 5/45°)
Dredging width at 40° swing angle	22 m (at max dredging depth)
Maximum mixture capacity	1000 m^3/hr

DREDGE INSTALLATION

Dredge pump type	BP2320
Impeller design	3 bladed
Impeller diameter / width / spherical passage	574 / 150 / 125 mm
Diameter suction- and discharge pipe	260 mm
Cutter	5- bladed, diameter: 950 mm
Cutter power	40 kW
Cutter speed	0-36 rpm
Mooring system	two spud poles and two swing winches

ENGINE INSTALLATION

Total installed power	254 kW
Dredge pump diesel	Caterpillar C12 TASC IMO version
Continuous power rating	254 kW (A-rating) @ 1800 rpm
Hydraulic installation	driving cutter, winches and spuds
Electric installation	24 Volt DC for controls, lighting, auxiliaries

PRINCIPAL DIMENSIONS

Length o.a. incl. ladder and spudkeepers	19.00 m
Length over pontoons	11.00 m
Beam o.a.	4.20 m
Depth	1.50 m
Draught (100 % filled bunkers) approx.	0.95 m
Air draught (spuds removed / ladder up) approx.	3.60 m
Total weight approx.	30 ton

TANK CAPACITIES

Fuel oil approx.	2 x 1.5 m^3 (for ± 50 running hours)

DECK MACHINERY

Ladder hoisting (1x)	by hydraulic cylinder
Side wire winches (2x)	40 kN, 0-15 m/min
Spud hoisting (2x)	by hydraulic cylinder, 40 kN

PROCESS INSTRUMENTATION

Vacuum and pressure indication
Mechanical dredging depth indicator

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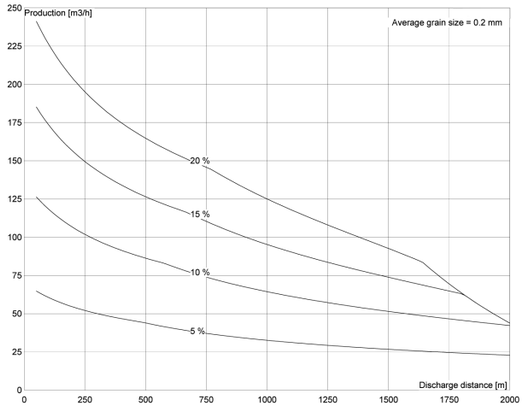
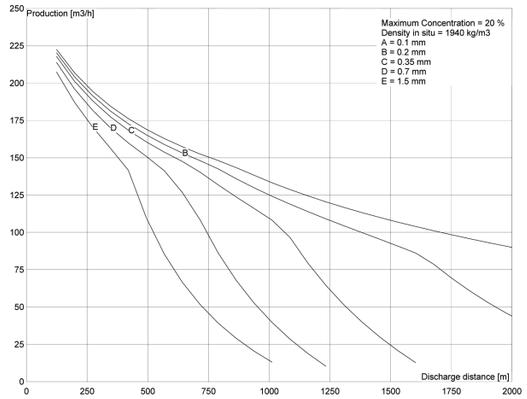
PRODUCTION CURVES



Production of in situ cubic meters versus discharge distance for various volumetric concentrations for grain size 0,2 mm



Production of in situ cubic meters versus discharge distance for various grainsizes at concentration of 20%