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-hard 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 STANDARD EQUIPMENT
GENERAL
- Decrease or increase cutter depth.
- Plain suction installation with jet water pump.
- Swivel connection for discharge pipeline.
- Jib crane for exchanging 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.

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 exchanging 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.
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

DREDGING FEATURES
- Min/ max dredging depth: 0.5 / 6 m (cutterladder angle of 5/45º)
- Dredging width at 40º swing angle: 22 m (at max dredging depth)
- Maximum mixture capacity: 1000 m³/hr

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

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

TANK CAPACITIES
- Fuel oil approx.: 2 x 1.5 m³ (for ± 50 running hours)

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

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

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.

DAMEN CUTTER SUCTION DREDGER 250
GENERAL ARRANGEMENT

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 grain sizes at concentration of 20%