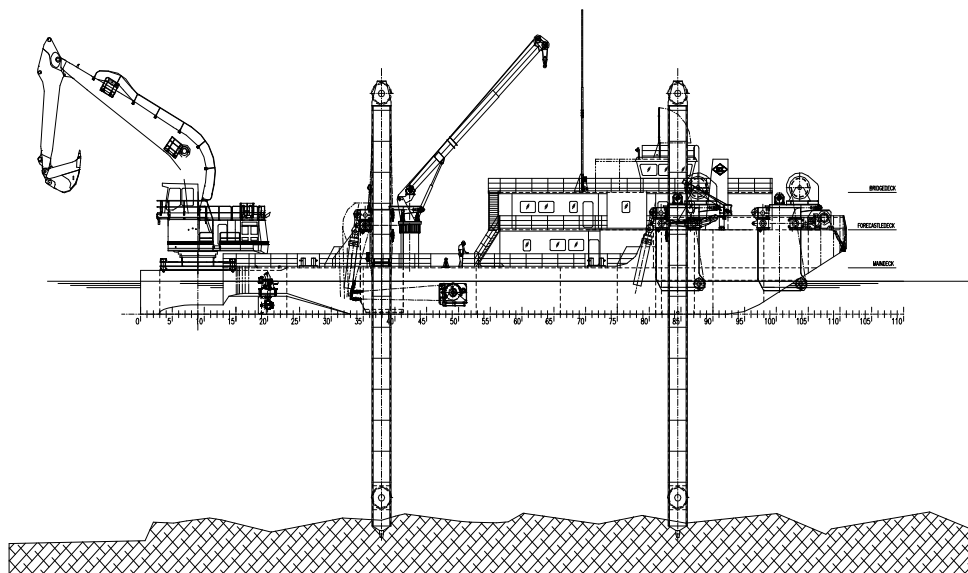


Propulsion- assisted Backhoe Dredger



Principal Dimensions

Length overall	approx.	55.45	m
Breadth, moulded	approx.	16.00	m
Depth, moulded	approx.	3.30	m
Maximum draught	approx.	2.30	m

Capacity

Effective dredging depth	approx.	19.00	m
Maximum digging force (with shorter stick)	approx.	650	kN
Maximum break-out force (with shorter stick)	approx.	750	kN

Dredging equipment

The above-mentioned dredging depth and forces can be reached by installation of the following excavators:

- make Liebherr, type P994 Litronic or
- make Komatsu, type 3000 Aqua digger

During dredging operations, the dredger is positioned by three spuds, one forward in a moving carriage and two in fixed guides aft. For shifting of the dredger a spud carrier, with a net stroke of approx. 8 m is installed, operated by a traversing winch.

Machinery

Output diesel engine of excavator	approx.	1x 930 kW
Main generator sets		2x 100 ekW
Harbour / Emergency generator set		1x 40 ekW

For propulsion assistance and manoeuvring purposes, the dredger is fitted with two hydraulically driven, well-mounted azimuth thrusters mounted in the stern of the dredger, each with an output of: 400 kW

General

The backhoe dredger is designed to perform dredging operations at maximum digging depth, while standing on its stabilizing spuds with the pontoon slightly lifted out of the water.

Furthermore, the dredger is suitable for unrestricted and unmanned deep sea towage, with spuds tilted to horizontal position. Accommodation is provided for eight persons

VER scope of work

On behalf of a dredging contractor, Vuyk Engineering Rotterdam developed a design package to enable the contractor to tender for a state-of-the-art backhoe dredger. The design package includes a General Arrangement Plan, Midship Section, weight calculation, stability, calculation of pontoon's longitudinal strength, strength analysis of the spud and cost price estimate.

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