

# Jumboizing tshd 'HAM 310'



## General

In 2000, the Dutch dredging contractor HAM Dredging and Marine Contractors (nowadays called Van Oord ) ordered the jumboizing of their 8 225 m<sup>3</sup> trailing suction hopper dredger 'HAM 310' at the yard Singapore Technologies Marine. It was the first dredger jumboizing project in the ship repair industry in Singapore. The project involved the lengthening of the dredger with 29.40 metres, involving some 1 300 tons steel as well as modification of the jet piping system, dredge piping, dredge pump motors and self-emptying channels.

## Principal dimensions

	Before conversion		After conversion	
Length overall	138.20	m	167.60	m
Length between perpendiculars	125.00	m	154.31	m
Breadth moulded	23.00	m	23.00	m
Depth moulded	11.60	m	11.60	m
Draught moulded (summer load line)	8.68	m	8.70	m
Draught (dredging)	9.80	m	10.00	m
Complement	46	persons	46	persons
Gross tonnage	10 378	GT	13 456	GT
Net tonnage	3 113	NT	4 036	NT

## Capacity

Deadweight	14 695	ton	20 059	ton
Hopper capacity	8 225	m <sup>3</sup>	12 535	m <sup>3</sup>
Service speed	15.0	kn	15.1	kn

## Dredging equipment

Two trailing suction pipes; diameter	1 100	mm	1 100	mm
Dredging depth:				
* nominal	32.00	m	35.00	m
* maximum			48.00	m
Two dredging pump, power during:				
* trailing suction dredging (each)	1 400	kW	2 400	kW
* shore discharging (each)	2 210	kW	2 400	kW
Two jet water pumps (each)			828	kW
Bow discharge	1 000	mm	900	mm
Bottom doors	20		24	

**Vuyk Engineering Rotterdam B.V.**  
Naval architects, Marine engineers, Consultants

P.O. Box 1, De Linie 7  
2900 AA Capelle aan den IJssel  
Phone +31 (0)10 450 25 00  
Fax +31 (0)10 458 72 45  
Email [vuyk@vuykrotterdam.com](mailto:vuyk@vuykrotterdam.com)  
Website [www.vuykrotterdam.com](http://www.vuykrotterdam.com)

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## VER scope of work

Vuyk Engineering Rotterdam (VER) made a feasibility study on the optimal length for lengthening of the dredger, which resulted in a length of 29.40 metres, taking into account longitudinal strength and stability.

In close cooperation with the HAM's technical department, VER worked out a complete tender package, including technical specification, detail engineering and strength calculations of the lengthened vessel.

The construction drawings of the mid-body section and coaming extension, the new jet water system, the new hopper discharge system and the renewal of dredge and jet pump drives were carried out as well.

An additional 2 000 kW generator set was required for ship's operations.



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Phone +31 (0)10 450 25 00  
Fax +31 (0)10 458 72 45  
Email [vuyk@vuykrotterdam.com](mailto:vuyk@vuykrotterdam.com)  
Website [www.vuykrotterdam.com](http://www.vuykrotterdam.com)

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