



VG6000

OUTLINE SPECIFICATION



1. GENERAL INFORMATION

TYPE:	VG6000 tdw is a twin azimuth propelled, diesel electric powered multi purpose cargo vessel of all double hull construction, designed for the carriage of voluminous project cargo on the hatches or in open hold condition as well as containers. By taking some precautions some types of bulk cargoes can be carried too. (It is uncertain if USCG will accept the vessel to have an open top notation.)
TONNAGE:	GT 4880 (acc. Convention 1969)
DEADWEIGHT:	Approx. 6.000 tdw (MT) at 6,45 m. draft. Approx. 4.500 tdw (MT) at 5,35 m. draft. (Open Top)
CLASS:	Bureau Veritas.
CLASS NOTATION:	I HULL MACH General Cargo Ship, Unrestricted navigation AUT-UMS, AVM-DPS Heavy Cargo DP1.
SERVICE:	Sea going service. GMDSS A3. Engine room according to Dutch shipping inspectorate "O" watch or equivalent.
FUEL:	Gas oil (ISO 8217 DMX/DMA) for all engines on board.
NAVIGATION:	Intended sailing area, North Sea, summer Baltic and Mediterranean.

2. PRINCIPAL DIMENSIONS

LENGTH OVER ALL:	107,20	m.
LENGTH BETWEEN PP:	99,67	m.
BREADTH MOULDED:	16,00	m.
MAIN ENGINE POWER MCR:	6 x 532	kW
SPEED, TRIAL CONDITION 2000 KW MCR:	12	knots.
AIR DRAFT:	34,25	m.



3. CARGO HOLD

MAX LOAD ON TT.:	15,0	t/m ²
MAX LOAD ON TWD.:	3,5	t/m ²
MAX LOAD ON MAIN HATCHES:	2,5	t/m ²
TYPE OF HATCH COVERS:	flush top pontoon	
FULL TWEENDECK:	10	pcs.
FREE DECK SPACE:	85,5 x 12	m.
UPPERHOLD:	80 x 12 x 4,7	m.
LOWERHOLD:	62 x 11,5 x 4,5	m.

4. TANK CAPACITIES

WATER BALLAST:	3.302	m ³
FRESH WATER:	58	m ³
FUEL OIL:	578	m ³
LUBRICATION OIL:	4,5	m ³
SEWAGE WATER:	40	m ³
GREY WATER:	33	m ³
BILGE WATER COLLECTING:	16	m ³

Bunker capacity designed for continuous sailing period of 30 days.

5. CONTAINER CAPACITIES

20 FT CONTAINERS ON HOLD	128	pcs
40 FT CONTAINERS ON HOLD	64	pcs
20 FT CONTAINERS ON THE HATCHES	138	pcs
40 FT CONTAINERS ON THE HATCHES	69	pcs



6. MAIN PROPULSION EQUIPMENT

6 AUXILIARY GENERATORS

- **MAKE:** Scania DI-16 55M 532 kW at 1.800 rpm
- **FUEL CONSUMPTION:** about 208 g/kWh at 100% MCR

2 FIXED PITCH AZIMUTH PROPELLER TRUSTERS. ZF, PROP.

- **DIAMETER:** 2,3 meter incl. tunnel, power rating 1.500 kW each
- **1 ELASTIC COUPLING:** between each e-motor and azimuth truster

2 BOW TRUSTER INSTALLATIONS (VARIABLE SPEED)

- **FIXED PITCH:** 4 kW each

7. ADDITIONAL ER EQUIPMENT

2 ROTATING CONVERTERS

100 kVA

1 EM. GENERATOR

108 kWe at 1.800 rpm, 3x400 V, 50 Hz.

1 WORKING AIR COMPRESSOR

15 m³/h at 8 bar.

2 BILGE/BALLAST PUMPS CAPACITY

200 m³/h at 1,4 bar.

1 BILGE/BALLAST PUMP CAPACITY

300 m³/h at 1,2 bar.

1 GENERAL SERVICE PUMP CAPACITY

55 m³/h at 4,6 bar.

1 FIRE FIGHTING PUMP CAPACITY

55 m³/h at 4,6 bar.

1 BILGE WATER SEPARATOR

720 lit/h

2 EJECTORS WITH CAPACITY

30 m³/h

1 GO SEPARATOR

1.000 Lit/h at GO-DMA

2 FO TRANSFER PUMPS CAPACITY

2,0 m³/h at 2 bar.



7.1 BILGE/BALLAST/HEELING SYSTEM TO COMPLY WITH OPEN TOP SAILING

BILGE CAPACITY TO COMPLY WITH OPEN TOP WATER INGRESS CALCULATION, TANK TESTING AND MSC/CIRC 608/REV.1 SYSTEM CONFIGURATION IS DETERMINED FOR INGRESS OF 400 MM WATER PER HOUR.

THE BALLAST SYSTEM IS REMOTE CONTROLLED FROM BOTH THE ER AND THE BRIDGE. A TANK CONTENT MEASURING SYSTEM IS INSTALLED TO MEASURE THE CONTENT OF ALL BALLAST TANKS AND IS CONNECTED TO THE LOADING COMPUTER.

7.2 BALLAST WATER TREATMENT

BALLAST WATER TREATMENT SYSTEM TO BE SORTED OUT TO FULFILL NEW REQUIREMENTS.

8. ELECTRICAL INSTALLATION

HIGH VOLTAGE SUPPLY: 690 Volt, 60 Hz.

POWER SUPPLY: 400 Volt, 50 Hz.

LIGHTING SUPPLY VOLTAGE: 230 Volt, 50 Hz.

EMERGENCY SUPPLY VOLTAGE: 24 Volt DC

3 X 2 AUXILIARY DIESEL GENERATORS FEED THE TWO SEPARATED DC PROP. SWITCHBOARDS. THE PROP. MOTORS, BOW THRUSTER MOTORS, ROTATING CONVERTERS AND SOME BIG CONSUMERS ARE FED BY THESE 690V PROPULSION SWITCHBOARDS.

BOTH THE ROTATING CONVERTERS POWER THE 400 VOLT, 50HZ MAIN SWITCHBOARD, WHICH SPLITS THE POWER TO SEVERAL DISTRIBUTION BOXES.

THE PROPULSION SYSTEM IS SPLIT IN 2 SEPARATE SYSTEMS AND ARE FED EACH BY 3 GENERATORS. ALL 3 AUXILIARY GENERATORS ARE CAPABLE TO RUN IN PARALLEL FEEDING THE DC PROPULSION SWITCHBOARD. IN HARBOR MODE A TAKE-OVER FUNCTION IS PROVIDED BETWEEN DE AUX. GENERATOR AND THE SHORE POWER.

1 EMERGENCY SWITCHBOARD, EQUIPPED FOR THE SWITCHING AND PROTECTION OF THE EMERGENCY GENERATOR, SUPPLY FROM THE MAIN SWITCHBOARD AND THE OUTGOING 400 VOLT AND 230 VOLT GROUPS.



FURTHER THE ALARM AND MONITORING INSTALLATION SHALL CONSIST OF:

- General Alarm
- Fire Detection alarm, incl. heat and smoke detection
- Engine room and bridge alarm and monitoring
- CO2 extinguishing plants for engine room and cargo hold incl. alarms and auto stops

NOTE: Experience has shown that the present combination of Scania generators and the DC-switchboard needs re-engineering. This to optimize efficiency and reliability. Most probably both prop. Switchboard should be changed to AC-switchboards.

9. VENTILATION AND HEATING

- Hold ventilation is achieved by 2 axial flow fans (Ex type) with a capacity of 6 air changes per hour
- Engine room ventilation is achieved by 2, two speed fans of which one is reversible
- Fan capacity 25.000/12.500 m³/h each

THE AIR CONDITIONING SYSTEM IS BASED ON A SINGLE DUCT SYSTEM WHICH IS SERVED BY A AC-UNIT WHICH IS POSITIONED IN A SEPARATE AC-ROOM.

CONDITIONING, COOLING AND BASIC HEATING IS ACHIEVED BY MEANS OF THIS AC-UNIT IN COMBINATION WITH FAN COIL UNITS WHICH ARE CAPABLE TO COOL OR HEAT THE RESPECTIVE SPACES. COOLING OF THE FAN COIL UNITS WILL BE ACHIEVED BY A CHILLER SYSTEM. HEATING WILL BE DONE USING A HOTWATER SYSTEM.

THE AC SYSTEM IS FRESH WATER COOLED VIA A BOX COOLER WHICH IS MOUNTED IN THE FORE SHIP.

THE TECHNICAL SPACES SUCH AS ENGINE ROOM, WORKSHOP, BOW TRUSTER ROOM, STEERING GEAR ROOM AND CO2 ROOM ARE ALL HEATED BY ELECTRICAL HEATERS.

10. SANITARY SYSTEM

1 FRESH WATER GENERATOR (REVERSE OSMOSIS TYPE) IS MOUNTED IN THE TECHNICAL SPACE. FRESH WATER IS STORED IN TWO FW TANKS WHICH ARE POSITIONED IN THE FORE SHIP. IN THE FORE SHIP A 200 LIT. HYDROPHORE IS INSTALLED WHICH IS FED BY TWO PRESSURE PUMPS.

A BOILER (300 LIT/HR) AND TWO HOT WATER CIRCULATION PUMPS ARE FITTED IN THE FW SYSTEM.

IN THE AFT SHIP A SMALL BOILER IS MOUNTED TO MAKE SURE WARM WATER IS AVAILABLE IN THE ER.

A SEWAGE PLANT AND A SEWAGE HOLDING TANK SITUATED IN THE FORE SHIP AND ARE SERVED BY PVC / STEEL GRAVITY SEWAGE PIPING SYSTEM. THE OVERBOARD LINES ARE MADE OUT OF



GALVANIZED STEEL. A SEWAGE DISCHARGE PUMP IS MOUNTED ON THE SEWAGE UNIT. CAPACITY 10 M³/H.

11. ACCOMMODATION

THE ACCOMMODATION IS SUITABLE FOR SAILING WITH A SAFE MANNING CREW NUMBER OF 6 PERSONS (DEPENDING FLAG REQUIREMENTS) HOWEVER THE VESSEL IS EQUIPPED WITH 5 OFFICERS CABINS AND 7 CREW CABINS.

FURTHER THE VESSEL IS EQUIPPED WITH A DRY PROVISION ROOM, A GALLEY, A DAY/ MESS ROOM, A CHANGE ROOM, LAUNDRY AND A SHIPSOFFICE/CONFERENCE ROOM.

ALL CABINS DO ALL HAVE THEIR OWN SANITARY UNITS, EXCEPT 2 CABINS ON TWEENDECK WHICH HAVE TO SHARE ONE SANITARY UNIT.

12. DECK MACHINERY

THE FORE SHIP IS EQUIPPED WITH TWO COMBINED ANCHOR/MOORING WINCH WITH ONE MOORING DRUMS, 1 WARPING HEADS AND 1 CHAIN WHEELS. (50 KN AT 18 M/MIN.)

THE AFT SHIP IS EQUIPPED WITH TWO MOORING WINCH WITH 1 MOORING DRUMS AND 1 WARPING HEADS. (50 KN AT 15 M/MIN.) NO STORAGE PART AVAILABLE FOR MOORING ROPES.

13. DECK EQUIPMENT

LIFE SAVING EQUIPMENT:

2 free fall lifeboats of each 16 persons on each side on boat deck of which one is acting as a MOB boat too

VARIOUS OTHER DECK OUTFITTING:

1 gantry crane for pontoon hatch operation
2 electro hydraulic cranes mounted on top of the gantry crane for handling rigging equipment, tools, etc.

FORECASTLE:

2 Bow anchors
2 Chain stoppers
5 Double bollards, some with rollers
3 chocks and 2 fairleads

AFT DECK:

2 double bollards, some with rollers
2 chocks and 2 fairleads



14. WEATHER DECK HATCH COVER AND GRAIN BULKHEADS

THE CARGO HOLD WILL BE COVERED BY 13 PIECES PONTOON HATCHES. HANDLING OF THOSE HATCHES WILL BE DONE BY MEANS OF THE GANTRY CRANE. CLEATS WILL BE MANUAL ACTING.

A FULL TWEENDECK WILL BE DELIVERED WHICH IS BUILD UP OUT OF 10 HATCHES. STORAGE OF THE TWEENDECKS CAN BE DONE IN THE UPPERHOLD ON TOP OF THE ER DECK OR ON THE AFT PART OF THE UPPERDECK IN TWO STACKS.

WHEN SAILING IN "OPEN TOP" MODE THE PONTOON HATCHES OF THE MAINDECK CAN BE STOWED ON THE AFT SHIP CARGO DECK AS WELL RIGHT BEHIND THE SUPERSTRUCTURE.

WHEN THE CARGO HOLD IS CLOSED BY ALL 13 PONTOON HATCHES ONE LONG CARGO DECK IS FORMED WITH A BEAM OF 16 METER AND A LENGTH OF 85,5 METERS. SINCE THE FUNNEL IS MOUNTED ON THE PS -SIDE OF THE VESSEL BIG PIECES OF CARGO OF A WIDTH OF MORE THAN 16 METERS CAN BE LOADED AND TRANSPORTED EASILY.

15. NAUTICAL EQUIPMENT

THE FOLLOWING NAUTICAL EQUIPMENT WILL BE MOUNTED:

1	Magnetic compass	1	AIS system
2	Gyro Compass (For DP-2 one additional Gyro is required)	1	SSAS system via inmarsat C
2	Windspeed indicators	2	VHF telephones
2	DGPS for DP system	1	MF/HF radio system
2	Vertical ref. sensors for DP system	2	Inmarsat C satellite communication systems
1	DGPS for navigation purposes	1	Navtex receiver
1	DP operator work station	1	EPIRB
1	Integrated joystick system	2	SART's
1	Gyro compass repeater on each bridge wing	3	Portable 2 way UHF transceivers
1	Gyro repeater for mounting in each prop. Room	1	Voyage data recording system
1	Rate of Turn indicator	1	Double ECDIS system
1	Auto pilot		
1	X-band radar		
1	S-band radar		
1	GPS for navigation purposes		
1	Echo sounder		
1	Speedlog		

NOTE: It is advisable that a Vsat and a back-up for the Vsat is installed. (Is part of the cost calculation)



16. PAINT SYSTEM

AREA + PAINT SYSTEM DESCRIPTION

DFT

HULL BELOW WATERLINE:

Hempadur 15570	75
Hempadur 17633	150
Hempadur 45182	75
Hempels anti fouling Olimpik	100
Hempels anti fouling Olimpik	100
	500

HULL ABOVE WATERLINE:

Hempadur 15570	50
Hempadur 17633	150
Hempathane 55210	50
	250

COAMING, DECK, INSIDE BULWARK, DECK MACHINERY, RAILING, HATCH COVER CRANE, DECK BOWTRUSTER ROOM AND MASTS:

Hempadur 15570	50
Hempadur 17633	150
Hempathane 55210	50
	250

SUPERSTRUCTURE, OUTSIDE FUNNEL, BOWTRUSTER ROOM, PAINT LOCKER AND DAVITS:

Hempadur 15570	50
Hempadur 17633	150
Hempathane 55210	50
	250

HATCH COVERS, TOPSIDE PLATES INCLUDING RUBBER GUTTERS:

Hempadur 15570	50
Hempadur 17633	150
Hempathane 55210	50
	250



**HATCH COVERS BOTTOM PLATE
(UNDERSIDE):**

Hempadur 15570	50
Hempadur 17633	125
Hempadur 17633	125
	300

**CARGO HOLD, GRAIN
BULKHEADS, CARGO RAIL,
ESCAPES AND VENT. DUCTS:**

Hempadur 15570	50
Hempadur 17633	100
	150

**CHAIN LOCKERS AND BATTERY
BOXES:**

Hempadur 15570	50
Hempadur 17633	125
	175

STEEL BEHIND WAINSCOTTING:

Hempadur 15570	50
Hempalin Primer 13200	80
	130

**ENGINE ROOM, WORKSHOP,
SERVICE ROOMS AND STEERING
GEAR ROOM, INTERNAL DECKS:**

Hempadur 15570	50
Hempalin Primer 13200	70
Hempalin Enamel 52140	40
	160

**ER AND BTR BELOW FLOOR
PLATES, VOID SPACES AND
COVERDAMS:**

Hempadur 15570	50
Hempadur 17630	125
	175

**BALLAST TANKS + VOIDS
(ACCORDING TO PSPC
REQUIREMENTS):**

Hempadur 15570	50
Hempadur 17633	125
Hempadur 17633	125
	300

**POT. FW TANKS
(BLASTING REQUIRED):**

Hempadur 85671	100
Hempadur 85671	100
Hempadur 85671	100
	300

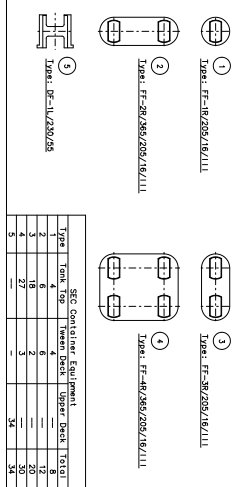
**SEWAGE TANK, CW DRAIN TANK,
HOLD BILGEWATER TANK:**

Hempadur 85671	100
Hempadur 85671	100
Hempadur 85671	100
	300

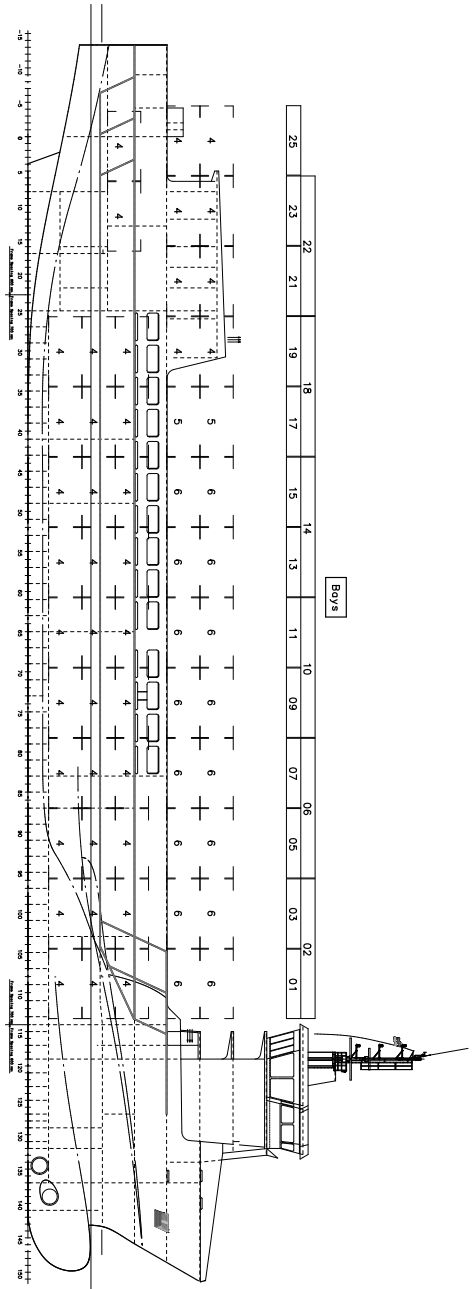
**BILGE WATER COLLECTING
TANK, COOLINGWATER DRAIN
TANK:**

Hempadur 15570	50
Hempadur 17630	125
Hempadur 17630	125
	300



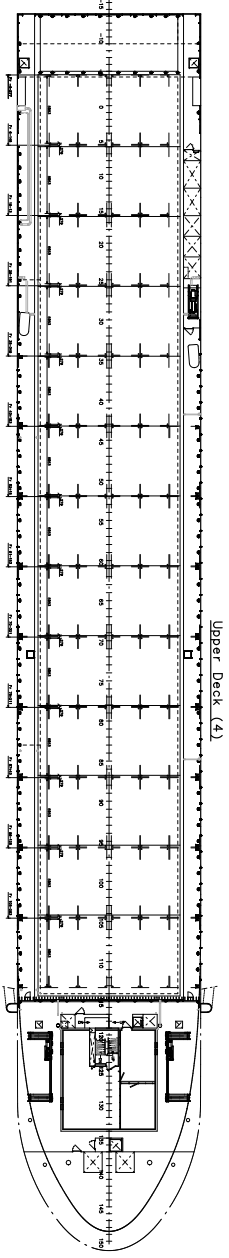


Type	Top	Tween	Upper Deck	Total
1	159	159	159	477
2	16	16	16	48
3	16	16	16	48
4	27	27	27	81
5	-	-	-	34

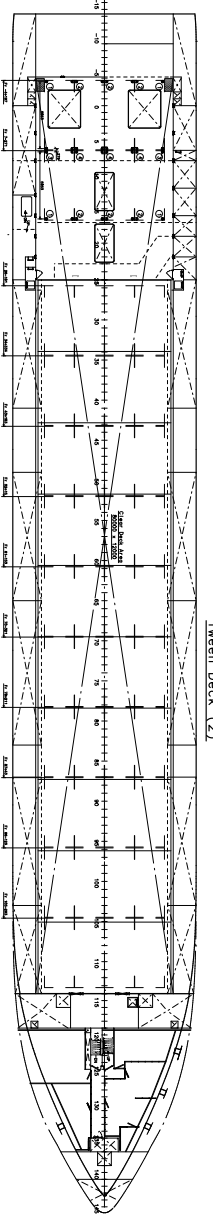


Boys	25	23	22	21	19	18	17	15	14	13	11	10	09	07	06	05	03	02	01
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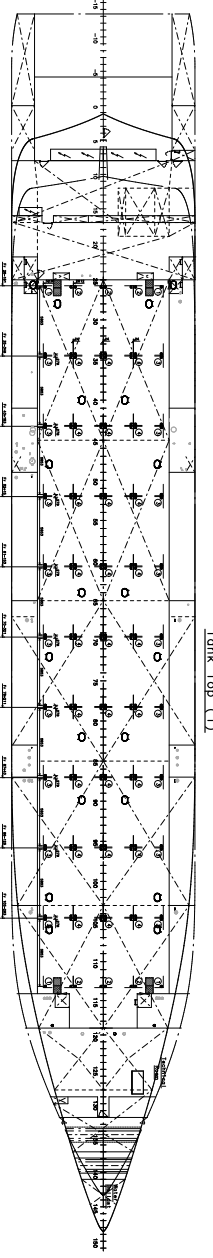
Tiers	84	82
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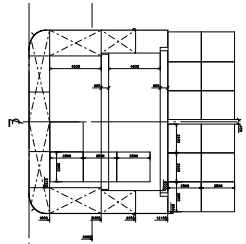
Rows	06	04	02	01	03	05
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Rows	04	02	01	03
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Rows	04	02	01	03
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Container Lashing Positions

Tiers	20"	30"	40"	40"	40"
54	17	32	49	81(1)	24(1)
Total	17	32	49	81(1)	24(1)
Rows	14	194	138	16(2)	48(4)
Total	14	194	138	16(2)	48(4)
06	48	0	48	24	0
04	0	0	40	20	0
02	0	0	40	20	0
Total	129	0	129	64	0
Ship	12	104	266	30(12)	128(12)

Lotst bijgewerkt: 29-08-2010

VG 6000-E

Main Particulars

Length o.t.g.	107,95 m
Length l.t.g.	99,67 m
Breadth mid.	16,00 m
H middeck	9,30 m
T max.	6,45 m

For Approval

Container Arrangement	
DATE	10/09/2010
BY	Sijpkema B.V.
NO	10.004
REV	000-080 0



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