# CAPACITY PLAN WITH DEADWEIGHT SCALE for m/t BOW SKY

| NAVIGATIONAL EQUIPMENT | | | |
|---|---|---|---|
| EQUIPMENT | TYPES | MAKER | SUPPLIER |
| Integrated Navigation System: | | FURUNO | FURUNO |
| – radar X-Band | FAR–2827 | | |
| – radar S-Band | FAR–2837S | | |
| – main ECDIS | | | |
| – back–up ECDIS | | | |
| – Conning Display | | | |
| 2 Radar Transponder | SART | JOTRON | FURUNO |
| Doppler Log | DS–50 | FURUNO | FURUNO |
| Echo Sounder | FE–700 | FURUNO | FURUNO |
| Dual DGPS Navigation System | DG–90 | FURUNO | FURUNO |
| LORAN–C Receiver | LC–90 MK2 | FURUNO | FURUNO |
| Weather Fax Receiver | FAX–210 | FURUNO | FURUNO |
| Dual Gyro Compass System | NAVIGAT X MK1 GC–101 | PLATH | FURUNO |
| Adaptive Auto/Track Pilot with MP 41–000 Control Unit | FAP–2000 | EMRI | FURUNO |
| Magnetic Compass System | NAKPOL I | PLATH | FURUNO |
| Voyage Data Recorder | VR–5000 | FURUNO | FURUNO |
| Wind Measuring System | 879.827 | DEF | FURUNO |
| Bridge Alarm and Watch Monitoring System | 970.404.900 | Lyngsø | FURUNO |
| Rudder Angle Indicator System | W–1430 | Rolls–Royce Marine AS, dep. Steering gear – Tønsfjord | Rolls–Royce Marine AS, dep. Steering gear – Frydenbø |
| Manual Searchlights | PL4155–04 | FAMOR | FAMOR |
| Remote Controlled Searchlights | PL4153–03/999 | FAMOR | FAMOR |
| Window Wiper System | | WYNMARINE | WYNMARINE |

| RADIO EQUIPMENT | | | |
|---|---|---|---|
| EQUIPMENT | TYPES | MADE | SUPPLIER |
| MF/HF DSC/SSB GMDSS Radio 250 W | FS–1570–25 | FURUNO | FURUNO |
| VHF/DSC Radio 25 W (2 pcs) Simplex | FM–8500 | FURUNO | FURUNO |
| INMARSAT–C SES (2 pcs) | FELCOM–15 | FURUNO | FURUNO |
| Handheld GMDSS VHF Radio (3 pcs) | TRON TR20 | JOTRON | FURUNO |
| GMDSS EPIRB 406 Mhz | TRON 40S | JOTRON | FURUNO |
| INMARSAT – F77 | | NERA | FURUNO |
| INMARSAT – F33 | | NERA | FURUNO |
| Automatic Identif. System | FA–100 A/S | FURUNO | FURUNO |
| NAVTEX Receiver | NX–500 | FURUNO | FURUNO |

## GENERAL PARTICULARS / EQUIPMENT

**GENERAL** — The ship is double bottom/double hull, diesel driven chemical tanker which fully complies with latest relevant legislation and which offers special consideration to environmental protection. A vessel is designed for carrying chemical cargoes of IMO type I, II & III as well as refined petroleum products, acids, vegetable oils, animal fats and molasses. Vessel constructed for 40 years operating life.

**PO CARRIAGE** — Cargo tanks No 2A, 3A, 3B, 3C, 3D, 4A, 4B, 4C and 5A are arranged for carriage of PO.

**SPEED & FUEL CONSUMPTION** — Service speed (at 11.50 m draught) ..... 15.8 kn. Service speed (at ballast draught) ..... 15.9 kn. Fuel consumption ME (100% load) ..... abt. 57.7 $m^3$/24 hrs HFO. (85% load) ..... abt. 47.9 $m^3$/24 hrs HFO.

**MAIN PROPULSION** — One two–stroke crosshead, non–reversible and supercharged in constant pressure system, diesel engine HCP / MAN/B&W–SULZER type 6RTA58T–B, rating 12750 kW at 105 rpm. The engine drives one controllable pitch propeller, diameter 6.80 m, anti–clockwise rotation type, supplied by Rolls–Royce/KAMEWA, Becker Mewis Duct installed.

**ELECTRICAL POWER PLANT** — Three three–phase alternators, supplied by AVK, type DSG 99 L1–10, 1499 kVA at 720 rpm, 450 V, 60 Hz, driven by three four–stroke engines, made by HCP / MAN B&W, type 6L28/32H, rating 1260 kW at 720 rpm. One three–phase shaft alternator, supplied by AVK, type DSG 86M 1–4W 1875 kVA at 1800 rpm, 450 V, 60 Hz, driven by main engine via tunnel gear. Two emergency generators, supplied by Lindenberg/AVK, type DSG43L 2–4, 250 kVA at 1800rpm, 450 V, 60 Hz, driven by one four–stroke engine, made by MAN, type D2866TE, rating 218 kW at 1800 rpm.

**STEERING GEAR** — One electrohydraulic steering gear, made by ROLLS–ROYCE, type RH700–2,rating 1700 kNm.

**BOW THRUSTER** — Made by Rolls–Royce/KAMEWA Group, type TZ2000 FP–41 rating 1000 kW, hydraulic driven.

**BOILERS** — Two vertical oil–fired water tube boiler, 14000 kg/h, 0.7 MPa. One water tube exhaust gas boiler, 1800 kg/h, 0.7 MPa with forced water circulation.

**EVAPORATOR** — Two FW generator made by ALFA–LAVAL, type JWSP26–C100 capacity 35 $m^3$/24 h (warm water heating or steam heating).

**CARGO SYSTEM** — The vessel is arranged for the loading and unloading via midship cargo manifolds to allow homogeneous cargo maximum loading and unloading rate 3000 $m^3$/hr. Cargo pumps made by FRANK MOHN A.S.: Twenty seven submerged, centrifugal pumps hydraulically driven, SD125, Q = 350 $m^3$/h, 110 mlc, sp.g. 0.90, visc. 1.0 cSt. Seven submerged, centrifugal pumps hydraulically driven, SD150, Q = 530 $m^3$/h, 110 mlc, sp.g. 0.90, visc. 1.0 cSt. Two submerged, centrifugal pumps for slop tanks hydraulically driven, SD100, Q = 100 $m^3$/h, 110 mlc, sp.g. 0.90, visc. 1.0 cSt. One portable, submerged, centrifugal pump hydraulically driven, TK80, Q = 80 $m^3$/h, 70 mlc, sp.g. 1.025, visc. 1.0 cSt.

**CARGO TANKS HEATING SYSTEM** — The cargo is heated by a steam/water system with hot water circulating in coils arranged in cargo tanks. The ship is fitted with two separate sets of coils. Each dimensioned for 50% of total heat in tanks 2B, 3A, 3B, 3C and for 57.5% in remaining tanks. The cargo (polymeric isocyanates tanks–2B, 3A, 3B and 3C) is heated by a steam/thermal oil system with thermal oil circulating in coils arranged in cargo tanks. Each tank is fitted with two sets of coils. Each dimensioned for 50% of total heat. The installation is calculated with the following base criteria:
– heating crude oil in 96 hours from 44 °C to 66 °C for wing and centre tanks, based on sea water temperature of 0 °C and ambient temperature –20 °C, using hot water;
– carriage polymeric isocyanates at a constant temperature of 45 °C in centre tanks 2B, 3A, 3B and 3C based on following temperature: sea water 0 °C, ambient air –20 °C, void space and adjacent cargo tanks 40 °C; ballast tanks 10 °C;
– carriage vegetable oil at a constant temperature of 60 °C in centre tanks 2B, 3A, 3B and 3C, based on sea water temperature of 0 °C and ambient temperature –20 °C, using hot water and thermal oil.
– carriage paraffin wax at a constant temperature of 95 °C in centre tanks 2B, 3A, 3B and 3C, based on sea water temperature of 0 °C and ambient temperature –20 °C, using hot water and thermal oil.

**CARGO CONTROL MONITORING SYSTEM** — Cargo control/monitoring system, type STAR is supplied by SAAB – Sweden and consists: – installations in CCR, 40 pcs radar transmitters, 40 pcs high/high level alarm sensors, 114 pcs temperature sensors for cargo tanks, 40 pcs pressure sensors for IG, 20 pcs level sensors for ballast tanks, 4 pcs level sensors for draft measurement. In addition: 40 pcs pressure transmitters for cargo manifold lines, Framo and Pieger hydraulics, cargo tank heating system are controlled from KONGSBERG workstations installed in CCR console

**BALLAST SYSTEM** — Ballast pumps made by FRANK MOHN A.S.: Two submerged, centrifugal pumps hydraulically driven, Q = 800 $m^3$/h, 26 mlc, sp. g. 1.025, visc. 1.0 cSt. One stripping ejector, water driven Q = 80 $m^3$/h at suction lift ps = 5 mlc (driving water capacity 95 $m^3$/h at 110 mlc).

**CRANES** — Two manifold crane, capacity 100 kN SWL, outreach 24 m, made by TOWMOR S.A. electro/hydraulic driven. One electro/hydraulic driven crane, for the provisions and ER spare parts handling; capacity 40 kN SWL, outreach 13 m, made by TOWMOR S.A.

**WINDLASSES** — Two hydraulically driven anchor/mooring winches 200 kN, made by TOWMOR S.A., #76 chain cable (spec. steel grade U3), length 660 m. Four hydraulically driven mooring non–self tensioning winches of abt. 200 kN mooring pull, c/w double drum designed for synthetic line Q=889 kN, length 230 m and side warping head, made by TOWMOR S.A.

**SAFETY EQUIPMENT** — One covered, GRP "Free Fall" life boat for 39 persons, made by FASMER. Four inflatable life rafts for 20 persons, made by DSB. One inflatable life raft for 6 persons, made by DSB. One rescue boat for 6 persons, made by FASMER. One davit for rescue boat; capacity 17 kN SWL, outreach 4.5 m, made by TOWMOR S.A. One davit for inflatable life rafts/provision; capacity 17/15 kN SWL, outreach 4.5/7 m, made by TOWMOR S.A.

**FIRE FIGHTING SYSTEMS** — Engine room – high pressure, fixed $CO_2$ system, – water fire fighting system, – portable fire fighting equipment. Cargo area – water fire fighting system, – portable fire fighting equipment. Accommodation – fixed sprinkler system, – portable fire fighting equipment. Weather decks – fixed deck foam system, – water fire fighting system, – portable foam applicators.

**NITROGEN SYSTEM** — Made by UNITOR (Norway): – two membrane generator, capacity 2x1875 $Nm^3$/h, at 95% nitrogen purity, – one nitrogen receiver, capacity 10 $m^3$, pressure 1 MPa.

**AIR CONDITIONS PLANT** — Single duct air conditioning system, with 30% air recirculation possibility, made by KLIMOR (Poland).

**EQUIPMENT FOR CLEANING SYSTEM** — Suez Canal. Two dependent tank cleaning mains: sea water and fresh water. Possibility of interconnection Two steam plate heaters (heating up to 85 °C) made by Alfa Laval. Two centrifugal pumps made by ALLWECKER – Q = 200 $m^3$/h, P = 12 bar. 38 cleaning machines for wing and centre cargo tanks made by Scarjat Tankcleaning, single nozzle, multi stage – model CS 751. 20 three levels with nozzles of diameter 10 mm and water flow 27.6 $m^3$/h at 10 bar; 8 three levels with nozzles of diameter 8/10/10 mm and water flow 24.4 $m^3$/h at 10 bar; 2 three levels with nozzles of diameter 12 mm and water flow 42.9 $m^3$/h at 10 bar; 8 four levels with nozzles of diameter 8 mm and water flow 24.0 $m^3$/h at 10 bar; 12 cleaning machines for deck cargo tanks made by Scarjat Tankcleaning, single stage, single 11 mm nozzle model CS 30 T; water flow 5.3 $m^3$/h at 8 bar.

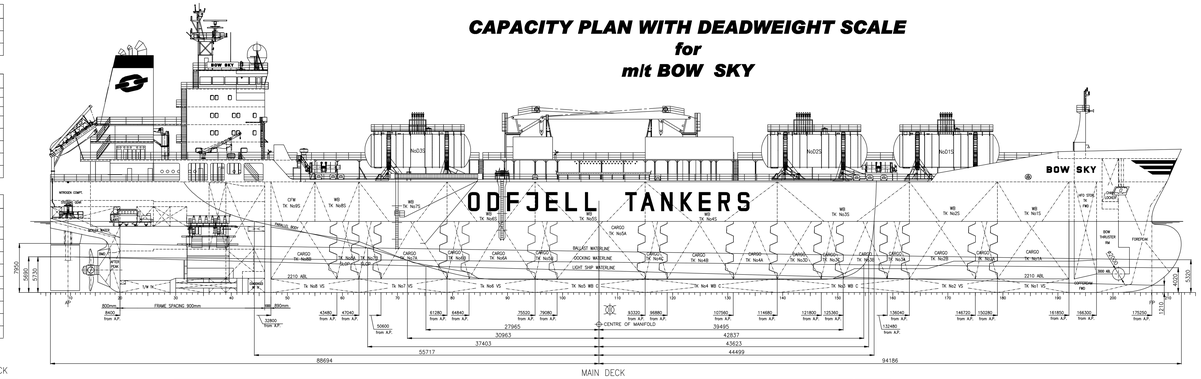
**DRY AIR SYSTEM** — Dehumidification unit made by Atlasen og Gunderson AS. Air flow 14500 $m^3$/h at 15 kPa.

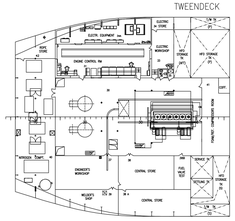
**DRY AIR CIRCULATION SYSTEM in VOID SPACES** — Dehumidification unit made by Atlasen og Gunderson AS. Air flow 2300 $m^3$/h at 5700 kPa. Dry air sea water cooling pump made by HYDRO–VACUUM S.A. Capacity 15 m $^3$/h at 2 bar.

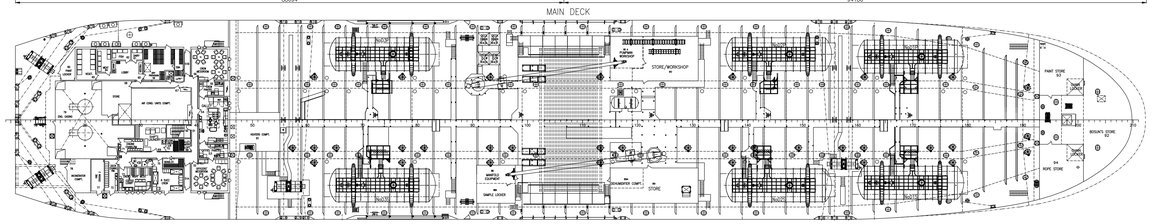
| TONNAGES | | | |
|---|---|---|---|
| REGISTER TONNAGES | INTERNATIONAL | SUEZ | PANAMA |
| GROSS | 29965 | | |
| NET | 11269 | | |

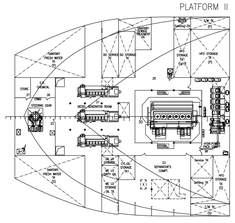
| DEADWEIGHT | | | |
|---|---|---|---|
| LOAD LINES | DRAUGHT below keel | DEADWEIGHT | |
| | | FRESH WATER | SEA WATER |
| | [m] | [t] | [t] |
| TF – FRESH WATER, TROPICAL | 12.015 | 41 263 | – |
| F – FRESH WATER | 11.775 | 40 015 | – |
| T – TROPICAL | 11.757 | 39 921 | – |
| S – SUMMER | 11.517 | 38 678 | 40 005 |
| W – WINTER | 11.277 | 37 439 | 38 735 |

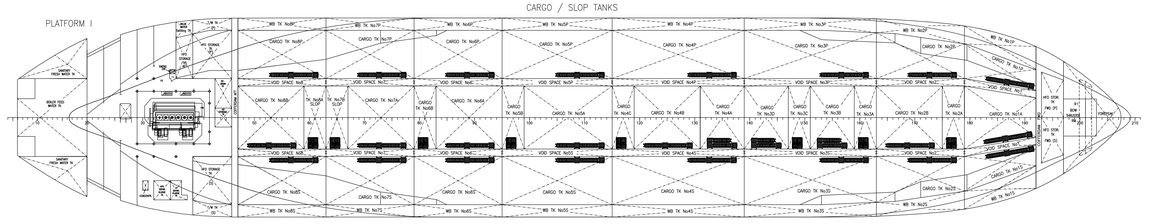
| DESIGN PARAMETERS | | | | |
|---|---|---|---|---|
| TANK | Filling Ratio [%] | Specific Gravity [t/$m^3$] | Temperature [°C] | Pressure [bar] |
| Centre Tanks (Duplex) | 85 | 2.15 | 70 | 0.25 |
| Centre Tanks (Duplex) | 100 | 1.50 | 90 | 0.25 |
| Centre Tanks (Duplex) | 100 | 1.85 | 70 | 0.25 |
| Centre Tanks (Duplex) | 100 | 0.90 | 70 | 0.70 |
| Wing Tanks (Duplex) | 100 | 1.25 | 70 | 0.25 |
| Wing Tanks (Duplex) | 80 | 1.50 | 70 | 0.25 |
| Wing Tanks (Duplex) | 100 | 1.18 | 90 | 0.25 |
| Wing Tanks (Duplex) | 80 | 1.42 | 90 | 0.25 |
| Deck Tanks (Duplex) | 98 | 1.70 | 90 | 0.70 |

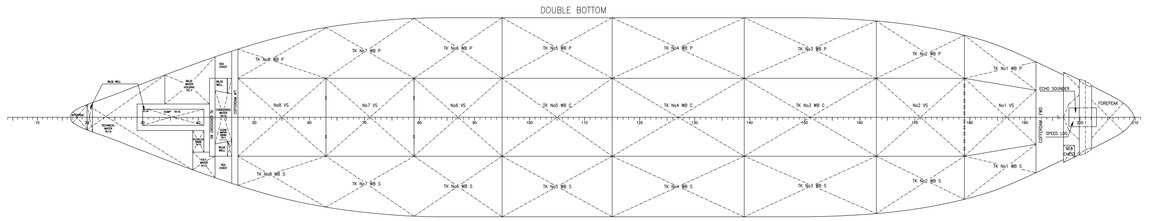


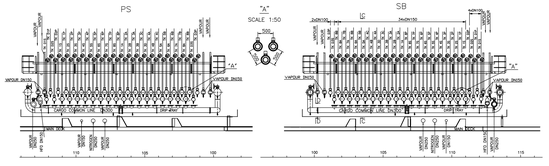




| REDUCERS and U, Y, F BEND | | |
|---|---|---|
| TANK | CONNECTIONS | QUANTITY |
| 500 | 6" x 6" x 6" | 4 |
| 500 | 8" x 6" x 6" | 2 |
| 866 | 6" x 6" x 6" | 1 |
| 1000 | 6" x 6" x 6" | 1 |
| 1000 | 8" x 6" x 6" | 1 |
| 866 | 12" x 6" x 6" x 6" | 1 |
| | 8" x 6" x 6" | 20 |
| | 8" x 6" x 6" | 1 |
| | 8" x 6" | 3 |
| | 8" x 6" x 6" | 1 |
| 500 | 6" x 6" | 1 |
| REDUCER (L = 250) | 5" x 6" | 1 |
| REDUCER (L = 250) | 6" x 8" | 2 |
| REDUCER (L = 400) | 6" x 10" | 2 |
| REDUCER (L = 400) | 8" x 12" | 2 |
| REDUCER (L = 400) | 10" x 12" | 2 |




| SEGREGATIONS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WING CARGO TANKS | | | | CENTER CARGO TANKS | | | | CARGO DECK TANKS | | | |
| SEGREGATION No | TANK No | PUMP DISCHARGE $m^3$/h | PUMP DISCHARGE VALVE No. | SEGREGATION No | TANK No | PUMP DISCHARGE $m^3$/h | PUMP DISCHARGE VALVE No. | SEGREGATION No | TANK No | PUMP DISCHARGE $m^3$/h | PUMP DISCHARGE VALVE No. |
| 1 | 1S | 230 | C.1 | 16 | 1A | 230 | C.3 | 35 | 01P | 100 | C.32 |
| 2 | 1P | 230 | C.1 | 17 | 1A | 230 | C.4 | 36 | 01S | 100 | C.36 |
| 3 | 2S | 230 | C.7 | 19 | 2B | 230 | C.6 | 37 | 02P | 100 | C.37 |
| 4 | 2P | 230 | C.5 | 20 | 3A | 230 | C.8 | 38 | 02S | 100 | C.38 |
| 5 | 3S | 230 | C.11 | 21 | 3B | 230 | C.9 | 39 | 03P | 100 | C.39 |
| 6 | 3P | 330 | C.11 | 22 | 3C | 230 | C.10 | 40 | 03S | 100 | C.40 |
| 7 | 4S | 330 | C.18 | 23 | 3D | 230 | C.12 | | | | |
| 8 | 4P | 330 | C.16 | 24 | 4A | 230 | C.14 | | | | |
| 9 | 5S | 330 | C.22 | 25 | 4B | 230 | C.15 | | | | |
| 10 | 5P | 330 | C.20 | 26 | 4C | 230 | C.17 | | | | |
| 11 | 6S | 230 | C.26 | 27 | 5A | 330 | C.19 | | | | |
| 12 | 6P | 230 | C.24 | 28 | 5B | 230 | C.21 | | | | |
| 13 | 7S | 230 | C.30 | 29 | 6A | 230 | C.23 | | | | |
| 14 | 7P | 230 | C.28 | 30 | 6B | 230 | C.25 | | | | |
| 15 | 8S | 230 | C.34 | 31 | 7A | 230 | C.27 | | | | |
| 16 | 8P | 230 | C.32 | 32 | 7B | 230 | C.29 | | | | |
| | | | | 33 | 8A | 230 | C.31 | | | | |
| | | | | 34 | 8B | 230 | C.33 | | | | |

| LOADING CONDITIONS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| STORES | DESCRIPTION | DISPLACEMENT | DRAUGHT | | Vertical centre of gravity above B.L. | METACENTRIC HEIGHT | BENDING MOMENT |
| | | | AFT | FORE | | | |
| – | Light ship | 14409 | 5.73 | 1.21 | 11.38 | 13.81 | 100274 |
| 20 | Docking condition | 21211 | 5.69 | 4.02 | 10.05 | 8.86 | 112205 |
| 100 | Water ballast (MARPOL) | 29569 | 7.95 | 5.32 | 9.46 | 6.38 | 129574 |
| 20 | Water ballast (MARPOL) | 29515 | 7.95 | 5.30 | 9.15 | 6.72 | 104195 |
| 100 | Homogeneous cargo GM = 0.725 t/$m^2$ | 54414 | 11.94 | 11.01 | 11.20 | 2.43 | 17960 |
| 20 | Homogeneous cargo GM = 0.725 t/$m^2$ | 52460 | 11.44 | 10.80 | 11.18 | 2.46 | –27076 |

| CARGO TANKS | | | |
|---|---|---|---|
| WING CARGO TANKS | | | |
| TANK | Frames | Volume 100% [$m^3$] | Mass 100% [t] |
| No 1 S | 179÷192 | 847.2 | 630.3 |
| No 1 P | 179÷192 | 847.2 | 630.3 |
| No 2 S | 163÷179 | 1477.6 | 1448.0 |
| No 2 P | 163÷179 | 1477.6 | 1448.0 |
| No 3 S | 139÷163 | 2610.3 | 2558.1 |
| No 3 P | 139÷163 | 2610.3 | 2558.1 |
| No 4 S | 115÷139 | 2647.2 | 2594.2 |
| No 4 P | 115÷139 | 2647.2 | 2594.2 |
| No 5 S | 95÷115 | 2206.0 | 2161.9 |
| No 5 P | 95÷115 | 2206.0 | 2161.9 |
| No 6 S | 79÷ 95 | 1761.5 | 1726.3 |
| No 6 P | 79÷ 95 | 1761.5 | 1726.3 |
| No 7 S | 63÷ 79 | 1679.0 | 1645.4 |
| No 7 P | 63÷ 79 | 1679.0 | 1645.4 |
| No 8 S | 47÷ 63 | 1422.2 | 1393.7 |
| No 8 P | 47÷ 63 | 1422.2 | 1393.7 |
| WING CARGO TANKS | | 35301.9 | 35715.3 |
| CENTRE CARGO / SLOP TANKS | | | |
| TANK | Frames | Volume 100% [$m^3$] | Mass 100% [t] |
| No 1 A | 179÷192 | 1611.1 | 1576.9 |
| No 2 A | 175÷179 | 580.8 | 569.2 |
| No 2 B | 163÷175 | 1742.4 | 1707.6 |
| No 3 A | 159÷163 | 580.8 | 569.2 |
| No 3 B | 151÷159 | 1161.6 | 1138.4 |
| No 3 C | 147÷151 | 580.8 | 569.2 |
| No 3 D | 139÷147 | 1161.6 | 1138.4 |
| No 4 A | 131÷139 | 1161.6 | 1138.4 |
| No 4 B | 119÷131 | 1742.4 | 1707.6 |
| No 4 C | 115÷119 | 580.8 | 569.2 |
| No 5 A | 99÷115 | 2333.2 | 2276.7 |
| No 5 B | 95÷ 99 | 580.8 | 569.2 |
| No 6 A | 83÷ 95 | 1742.4 | 1707.6 |
| No 6 B | 79÷ 83 | 580.8 | 569.2 |
| No 7 A | 67÷ 79 | 1742.4 | 1707.6 |
| No 7 B SLOP | 63÷ 67 | 580.8 | 569.2 |
| No 8 B SLOP | 59÷ 63 | 580.8 | 569.2 |
| No 8 B | 47÷ 59 | 1665.1 | 1631.8 |
| CARGO/SLOP TANKS | | 20700.4 | 20286.3 |
| DECK CARGO TANKS | | | |
| TANK | Frames | Volume 100% [$m^3$] | Mass 100% [t] |
| No 01S | 82*÷179* | 359.0 | 352.0 |
| No 01P | 82*÷179* | 359.0 | 352.0 |
| No 02S | 39*÷155* | 359.0 | 352.0 |
| No 02P | 39*÷155* | 359.0 | 352.0 |
| No 03S | 64*÷ 83* | 359.0 | 352.0 |
| No 03P | 64*÷ 83* | 359.0 | 352.0 |
| DECK CARGO TANKS | | 2154.0 | 2112.0 |
| TOTAL CARGO TANKS | | 52156.3 | 51114.1 |

| VOID SPACES | | |
|---|---|---|
| VOID SPACE | Frames | VOL [$m^3$] |
| VS (total) | 47÷192 | 6721.7 |
| No 1 VS | 179÷192 | 707.6 |
| No 2 VS | 163÷179 | 929.2 |
| No 3 VS P | 139÷163 | 405.4 |
| No 3 VS S | 139÷163 | 405.4 |
| No 4 VS P | 115÷139 | 405.4 |
| No 4 VS S | 115÷139 | 405.4 |
| No 5 VS P | 95÷115 | 337.9 |
| No 5 VS S | 95÷115 | 337.9 |
| No 6 VS | 79÷ 95 | 929.2 |
| No 7 VS | 63÷ 79 | 929.2 |
| No 8 VS | 47÷ 63 | 734.9 |
| Cofferdam FWD | 192÷197 | 720.3 |
| Cofferdam Aft P | 46÷ 47 | 508.2 |

| LIST OF TANKS | | | | |
|---|---|---|---|---|
| WATER BALLAST | | | | |
| SG = 1.025 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| FORE'PEAK | 197÷212.38 | 1452.5 | 1488.8 | Water Ballast |
| No 1 WB Tank P | 179÷192 | 657.3 | 673.7 | Water Ballast |
| No 1 WB Tank S | 179÷192 | 657.3 | 673.7 | Water Ballast |
| No 2 WB Tank P | 163÷179 | 760.2 | 779.2 | Water Ballast |
| No 2 WB Tank S | 163÷179 | 760.2 | 779.2 | Water Ballast |
| No 3 WB Tank C | 139÷163 | 582.9 | 597.5 | Water Ballast |
| No 3 WB Tank P | 139÷163 | 1114.9 | 1142.8 | Water Ballast |
| No 3 WB Tank S | 139÷163 | 1114.9 | 1142.8 | Water Ballast |
| No 4 WB Tank C | 115÷139 | 582.9 | 597.5 | Water Ballast |
| No 4 WB Tank P | 115÷139 | 1094.2 | 1121.6 | Water Ballast |
| No 4 WB Tank S | 115÷139 | 1094.2 | 1121.6 | Water Ballast |
| No 5 WB Tank C | 95÷115 | 446.7 | 457.9 | Water Ballast |
| No 5 WB Tank P | 95÷115 | 911.8 | 934.6 | Water Ballast |
| No 5 WB Tank S | 95÷115 | 911.8 | 934.6 | Water Ballast |
| No 6 WB Tank P | 79÷ 95 | 730.3 | 748.6 | Water Ballast |
| No 6 WB Tank S | 79÷ 95 | 730.3 | 748.6 | Water Ballast |
| No 7 WB Tank P | 63÷ 79 | 753.9 | 772.8 | Water Ballast |
| No 7 WB Tank S | 63÷ 79 | 753.9 | 772.8 | Water Ballast |
| No 8 WB Tank P | 47÷ 63 | 763.6 | 782.7 | Water Ballast |
| TOTAL WATER BALLAST | | 16676.4 | 17093.7 | |
| HEAVY FUEL OIL | | | | |
| SG = 0.980 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 19 Tank | 39÷ 44 | 556.6 | 574.4 | Fuel Overflow Tank |
| No 19 Tank S | 39÷ 46 | 354.0 | 346.9 | HFO Storage Tank S |
| No 19 Tank P | 39÷ 46 | 484.7 | 475.0 | HFO Storage Tank P |
| No 35 Tank | 36÷ 39 | 195.1 | 191.2 | HFO Storage Tank Aft |
| No 36 Tank | 34÷ 43 | 79.3 | 77.7 | HFO Settling Tank |
| No 37 Tank | 39÷ 43 | 63.4 | 62.1 | HFO Service Tank |
| No 47 Tank S | 193÷197 | 381.1 | 373.5 | HFO Storage Tank Bow S |
| No 41 Tank P | 193÷197 | 381.1 | 373.5 | HFO Storage Tank Bow P |
| TOTAL HEAVY FUEL OIL | | 1997.3 | 1957.3 | |
| DIESEL OIL | | | | |
| SG = 0.850 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 32 Tank | 23÷ 26 | 47.4 | 40.3 | DO Service Tank |
| No 33 Tank | 26÷ 29 | 54.3 | 46.2 | DO Storage Tank |
| TOTAL DIESEL OIL | | 101.9 | 86.7 | |
| HYDRAULIC OIL | | | | |
| SG = 0.900 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 21 Tank | 44÷ 46 | 15.6 | 14.0 | Hydraulic Oil Storage Tank |
| No 22 Tank | 44÷ 46 | 10.1 | 9.1 | Hydraulic Oil Drain Tank |
| TOTAL HYDRAULIC OIL | | 16.6 | 15.0 | |
| LUBRICATING OIL | | | | |
| SG = 0.900 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 19 Tank | 30÷ 41 | 21.6 | 19.4 | Sump Tank |
| No 25 Tank | 26÷ 29 | 41.3 | 37.2 | Cylinder Oil Storage Tank 1 |
| No 26 Tank | 23÷ 26 | 17.5 | 15.6 | DO LO Storage Tank |
| No 29 Tank | 23÷ 26 | 21.7 | 19.5 | Cyl. Oil Storage Tk 2/ME LO Dirty Oil Tk |
| No 30 Tank | 23÷ 26 | 26.7 | 24.0 | ME LO Storage Oil Tank |
| TOTAL LUBRICATING OIL | | 128.6 | 115.7 | |
| TECHNICAL WATER | | | | |
| SG = 1.000 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 9 Tank S | 39÷ 46 | 174.7 | 174.7 | Technical Water Tank S |
| No 9 Tank P | 39÷ 46 | 192.6 | 192.6 | Technical Water Tank P |
| No 14 Tank | 20÷ 39 | 198.8 | 198.8 | Technical Water Tank |
| TOTAL TECHNICAL WATER | | 566.1 | 566.1 | |
| FRESH WATER | | | | |
| SG = 1.000 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 31 Tank S | 6÷ 20 | 207.4 | 207.4 | Sanitary Fresh Water Tank S |
| No 31 Tank P | 6÷ 20 | 142.8 | 142.8 | Sanitary Fresh Water Tank P |
| No 40 Tank | 4÷ 20 | 225.0 | 225.0 | Boiler Feed Water Tank |
| Afterpeak | 15÷ 20 | 30.7 | 30.7 | Stern Tube Fresh Water Cooling Tank |
| TOTAL FRESH WATER | | 605.9 | 605.9 | |
| DRAINS & SLUDGE | | | | |
| SG = 1.000 t/$m^3$ | Frames | Volume 100% [$m^3$] | Mass [t] | Destination |
| No 10 Tank | 43÷ 46 | 57.5 | 57.5 | Condensed Water Tank |
| No 11 Tank | 43÷ 46 | 8.1 | 8.1 | Clean Water Drain Tank |
| No 12 Tank | 39÷ 43 | 18.5 | 18.5 | Oily Water Tank |
| No 13 Tank | 39÷ 41 | 14.2 | 14.2 | FO/DO/LO Drain Tank |
| No 17 Tank | 34÷ 43 | 86.7 | 86.7 | Bilge Water Holding Tank |
| No 23 Tank | 32÷ 35 | 8.3 | 8.3 | HFO Separator Sludge Tank |
| No 24 Tank | 30÷ 37 | 6.1 | 6.1 | LO Separator Sludge Tank |
| No 27 Tank | 30÷ 31 | 1.5 | 1.5 | Concentrated Sludge Tank |
| No 34 Tank | 26÷ 32 | 58.1 | 58.1 | Sanitary Sewage Treatment Tank |
| No 39 Tank | 36÷ 39 | 42.9 | 42.9 | Bilge Water Settling Tank |
| No 42 A Tank | 91÷ 93 | 10.1 | 10.1 | Chemical D.I.W Tank A |
| No 42 F Tank | 93÷ 95 | 10.1 | 10.1 | Chemical D.I.W Tank F |
| No 43 A Tank | 91÷ 93 | 10.1 | 10.1 | Deck Drain Tank A |
| No 43 F Tank | 93÷ 95 | 10.1 | 10.1 | Deck Drain Tank F |
| TOTAL DRAINS & SLUDGE | | 342.3 | 342.3 | |

| m | dm | | t | t/cm | tm/cm | m | t/cm | tm/cm | m | t/cm | tm/cm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14.00 | 140 | | 68000 | | | 51000 | | | 13.80 | XLII | |
| 13.90 | 139 | | 69000 | | | 50000 | | | 13.70 | XLI | |
| 13.80 | 138 | | 70000 | | | 49000 | | | 13.60 | XL | |
| 13.70 | 137 | 66000 | 71000 | 54.00 | | 48000 | | | 13.50 | XXXIX | |
| 13.60 | 136 | 65000 | 72000 | 53.50 | | 47000 | 54.00 | | 13.40 | XXXVIII | |
| 13.50 | 135 | 64000 | 73000 | 53.00 | | 46000 | 53.50 | | 13.30 | XXXVII | |
| 13.40 | 134 | 63000 | 74000 | 52.50 | | 45000 | 53.00 | | 13.20 | XXXVI | |
| 13.30 | 133 | 62000 | 75000 | 52.00 | | 44000 | 52.50 | | 13.10 | XXXV | |
| 13.20 | 132 | 61000 | 76000 | 51.50 | | 43000 | 52.00 | | 13.00 | XXXIV | |
| 13.10 | 131 | 60000 | 77000 | 51.00 | | 42000 | 51.50 | | 12.90 | XXXIII | |
| 13.00 | 130 | 59000 | 78000 | 50.50 | | 41000 | 51.00 | | 12.80 | XXXII | |
| 12.90 | 129 | 58000 | 79000 | 50.00 | | 40000 | 50.50 | | 12.70 | XXXI | |
| 12.80 | 128 | 57000 | 80000 | 49.50 | | 39000 | 50.00 | | 12.60 | XXX | |
| 12.70 | 127 | 56000 | 81000 | 49.00 | | 38000 | 49.50 | | 12.50 | XIX | |
| 12.60 | 126 | 55000 | 82000 | 48.50 | | 37000 | 49.00 | | 12.40 | XVIII | |
| 12.50 | 125 | 54000 | 83000 | 48.00 | | 36000 | 48.50 | | 12.30 | XVII | |
| 12.40 | 124 | 53000 | 84000 | 47.50 | | 35000 | 48.00 | | 12.20 | XVI | |
| 12.30 | 123 | 52000 | 85000 | 47.00 | | 34000 | 47.50 | | 12.10 | XV | |
| 12.20 | 122 | 51000 | 86000 | 46.50 | | 33000 | 47.00 | | 12.00 | XIV | |
| 12.10 | 121 | 50000 | 87000 | 46.00 | | 32000 | 46.50 | | 11.90 | XIII | |
| 12.00 | 120 | 49000 | 88000 | 45.50 | | 31000 | 46.00 | | 11.80 | XII | |
| 11.90 | 119 | 48000 | 89000 | 45.00 | | 30000 | 45.50 | | 11.70 | XI | |
| 11.80 | 118 | 47000 | 90000 | 44.50 | | 29000 | 45.00 | | 11.60 | X | |
| 11.70 | 117 | 46000 | 91000 | 44.00 | | 28000 | 44.50 | | 11.50 | IX | |
| 11.60 | 116 | 45000 | 92000 | 43.50 | | 27000 | 44.00 | | 11.40 | VIII | |
| 11.50 | 115 | 44000 | 93000 | 43.00 | | 26000 | 43.50 | | 11.30 | VII | |
| 11.40 | 114 | 43000 | 94000 | 42.50 | | 25000 | 43.00 | | 11.20 | VI | |
| 11.30 | 113 | 42000 | 95000 | 42.00 | | 24000 | 42.50 | | 11.10 | V | |
| 11.20 | 112 | 41000 | 96000 | 41.50 | | 23000 | 42.00 | | 11.00 | IV | |
| 11.10 | 111 | 40000 | 97000 | 41.00 | | 22000 | 41.50 | | 10.90 | III | |
| 11.00 | 110 | 39000 | 98000 | 40.50 | | 21000 | 41.00 | | 10.80 | II | |
| 10.90 | 109 | 38000 | 99000 | 40.00 | | 20000 | 40.50 | | 10.70 | I | |
| 10.80 | 108 | 37000 | 100000 | 39.50 | | 19000 | 40.00 | | 10.60 | 0 | |
| 10.70 | 107 | 36000 | 101000 | 39.00 | | 18000 | 39.50 | | 10.50 | 10 | |
| 10.60 | 106 | 35000 | 102000 | 38.50 | | 17000 | 39.00 | | 10.40 | 20 | |
| 10.50 | 105 | 34000 | 103000 | 38.00 | | 16000 | 38.50 | | 10.30 | 30 | |
| 10.40 | 104 | 33000 | 104000 | 37.50 | | 15000 | 38.00 | | 10.20 | 40 | |
| 10.30 | 103 | 32000 | 105000 | 37.00 | | 14000 | 37.50 | | 10.10 | 50 | |
| 10.20 | 102 | 31000 | 106000 | 36.50 | | 13000 | 37.00 | | 10.00 | 60 | |
| 10.10 | 101 | 30000 | 107000 | 36.00 | | 12000 | 36.50 | | 9.90 | 70 | |
| 10.00 | 100 | 29000 | 108000 | 35.50 | | 11000 | 36.00 | | 9.80 | 80 | |
| 9.90 | 99 | 28000 | 109000 | 35.00 | | 10000 | 35.50 | | 9.70 | 90 | |
| 9.80 | 98 | 27000 | 110000 | 34.50 | | 9000 | 35.00 | | 9.60 | 100 | |
| 9.70 | 97 | 26000 | 111000 | 34.00 | | 8000 | 34.50 | | 9.50 | 110 | |
| 9.60 | 96 | 25000 | 112000 | 33.50 | | 7000 | 34.00 | | 9.40 | 120 | |
| 9.50 | 95 | 24000 | 113000 | 33.00 | | 6000 | 33.50 | | 9.30 | 130 | |
| 9.40 | 94 | 23000 | 114000 | 32.50 | | 5000 | 33.00 | | 9.20 | 140 | |
| 9.30 | 93 | 22000 | 115000 | 32.00 | | 4000 