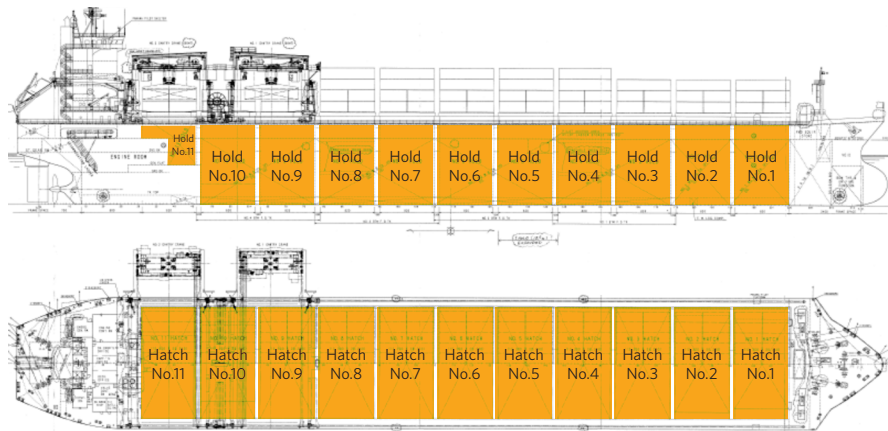




CLASS NOTATION: +1A1, General Cargo Carrier Container HC/EA IB(+) (except hold no.11) HA(+) E0 TMON NAUT-OC LCS (GIS) GRAIN-J13U v1. NOTE! Information given in this booklet is reflecting the situation at the time being created, Oct 2012.



### MAIN DIMENSIONS

|             |          |                  |          |                  |                       |
|-------------|----------|------------------|----------|------------------|-----------------------|
| LOA:        | 198,00 m | Depth main deck: | 19,00 m  | Depth Mld.:      | 19,00 m               |
| LPP:        | 187,00 m | Draught Mld.:    | 12,00 m  | Cargo hold cap.: | 64.489 m <sup>3</sup> |
| Bredth Mld. | 31,00 m  | Draught ext.:    | 12,019 m | Max air draught: | 46,00 m               |



**Owners:** Grieg International II AS / Grieg Shipping II AS

**Management:** Grieg Star

**Operator:** Grieg Star

**Nationality:** Norway (NIS)

**Port of registry:** Bergen

**Deadweight:** 44.800 mt

**Gross ton:** 32.680 mt

**Net ton:** 13.085 mt

**PC/UMS:** 27.170 mt

**Sues:** 29.515 mt

**Bale capacity:** 61.490 m<sup>3</sup>

**Number of holds:** 11

**Speed:** 16 knots

**General description:**

Open hatch general cargo carrier with 2 x 68 mt gantry cranes on deck and 11 box-shaped cargo holds intended for the carriage of baled pulp, ore, grain, cement, paper, packaged lumber and other solid bulk cargoes.

Containers arranged in holds and on deck. Dehumidification system for all cargo holds.

Accommodation aft for a total of 29 persons. Water ballast in fore- and aft peak tanks and in 12 tanks in double hull and double bottom. No ballast in cargo holds. Four HFO storage tanks in double bottom.

**Painted surface:**

Hull (top side): 11.129 m<sup>2</sup>

Flat bottom: 3.420 m<sup>2</sup>

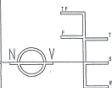
Vertical bottom: 4.000 m<sup>2</sup>

### Deadweight & Draft

| Zone                 | Draft (m) |         | Deadweight (mt) |             |
|----------------------|-----------|---------|-----------------|-------------|
|                      | S. Japan  | S. Java | S. Japan        | S. Juventas |
| Tropical fresh water | 12,542    | 12,542  | 46,103          | 45,988      |
| Fresh water          | 12,929    | 12,229  | 44,814          | 44,699      |
| Tropical             | 12,269    | 12,269  | 46,124          | 46,009      |
| Summer               | 12,019    | 12,019  | 44,807          | 44,692      |
| Winter               | 11,769    | 11,769  | 43,496          | 43,381      |
|                      |           |         |                 | 43,526      |



| DRAFT<br>(METER) | FREEBOARD<br>(METER) | MOMENT TO<br>CHANGE TRIM<br>1 CM<br>(TON-M) | TONS PER<br>1 CM<br>IMMERSION<br>(K. TONS) | DEADWEIGHT<br>(K. TONS) |               |               |               | DISPLACE-<br>MENT<br>(K. TONS) | DRAFT<br>(METER) |
|------------------|----------------------|---|--|-------------------------|---------------|---------------|---------------|--------------------------------|------------------|
|                  |                      |   |  | S. G. = 1.000           | S. G. = 1.005 | S. G. = 1.010 | S. G. = 1.015 |                                |                  |
| 13               | 3                    | 700   | 54   | 50000                   | 50000         | 50000         | 50000         | 50000                          | 13               |
|                  |                      | 680   |  |                         |               |               |               |                                |                  |
|                  |                      | 660   |  |                         |               |               |               |                                |                  |
| 12               | 3                    | 670   | 53   | 45000                   | 45000         | 45000         | 45000         | 45000                          | 12               |
|                  |                      | 650   |  |                         |               |               |               |                                |                  |
|                  |                      | 630   |  |                         |               |               |               |                                |                  |
| 11               | 4                    | 640   | 52   | 40000                   | 40000         | 40000         | 40000         | 40000                          | 11               |
|                  |                      | 620   |  |                         |               |               |               |                                |                  |
|                  |                      | 600   |  |                         |               |               |               |                                |                  |
| 10               | 5                    | 590   | 51   | 35000                   | 35000         | 35000         | 35000         | 35000                          | 10               |
|                  |                      | 570   |  |                         |               |               |               |                                |                  |
|                  |                      | 550   |  |                         |               |               |               |                                |                  |
| 9                | 6                    | 560   | 50   | 30000                   | 30000         | 30000         | 30000         | 30000                          | 9                |
|                  |                      | 540   |  |                         |               |               |               |                                |                  |
|                  |                      | 520   |  |                         |               |               |               |                                |                  |
| 8                | 7                    | 510   | 49   | 25000                   | 25000         | 25000         | 25000         | 25000                          | 8                |
|                  |                      | 490   |  |                         |               |               |               |                                |                  |
|                  |                      | 470   |  |                         |               |               |               |                                |                  |



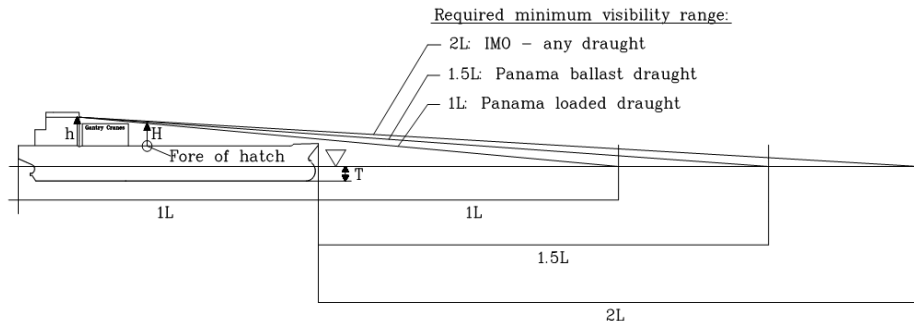


Table shows height in meters from fore end of hatch covers to limit view lines.

| h = 16.65 m - height from hatch cover level to view point on bridge |       |       |       |       |       |       |      |                  |
|---|-------|-------|-------|-------|-------|-------|------|------------------|
| HATCH no.   |       | 6     | 5     | 4     | 3     | 2     | 1    | BOW<br>clearance |
| DRAUGHT   |       | H     |       |       |       |       |      |                  |
| T   | 1.5 L | 11.12 | 10.25 | 9.38  | 8.51  | 7.63  | 6.76 | 4.58             |
| 8 m   | 2 L   | 12.08 | 11.36 | 10.64 | 9.92  | 9.20  | 8.48 | 6.54             |
| T   | 1 L   | 10.58 | 9.62  | 8.66  | 7.70  | 6.74  | 5.79 | 3.47             |
| 12.019 m  | 2 L   | 12.68 | 12.06 | 11.43 | 10.80 | 10.18 | 9.55 | 7.78             |



## WATER BALLAST TANKS

SPECIFIC GRAVITY = 1.025

| COMPARTMENT       | LOCATION FR. NO. | CAPACITY           |                     | WEIGHT | CENTER OF GRAVITY (100% FULL) |        | MAX. FREE SURFACE (M <sup>2</sup> ) |
|-------------------|------------------|--------------------|---------------------|--------|-------------------------------|--------|-------------------------------------|
|                   |                  | 100% FULL (CUB. M) | 100% FULL (M. TONS) |        | MID. G (M)                    | KG (M) |                                     |
| FORE PEAK TANK    | C 208 - 210      | 2 053.2            | 2 104.5             | -81.57 | 8.16                          | 7247   |                                     |
| NO. 1 WING W.B.T. | P 190 - 206      | 961.0              | 985.0               | -68.95 | 7.82                          | 581    |                                     |
|                   | S 190 - 206      | 1 008.9            | 1 034.1             | -70.03 | 7.36                          | 1 429  |                                     |
| NO. 2 WING W.B.T. | P 174 - 190      | 771.9              | 791.2               | -57.05 | 6.90                          | 1 364  |                                     |
|                   | S 174 - 190      | 809.3              | 829.5               | -57.14 | 6.57                          | 2 362  |                                     |
| NO. 3 WING W.B.T. | P 142 - 174      | 1 181.9            | 1 211.4             | -36.64 | 6.63                          | 807    |                                     |
|                   | S 142 - 174      | 1 164.1            | 1 193.2             | -36.74 | 6.52                          | 806    |                                     |
| NO. 4 WING W.B.T. | P 110 - 142      | 1 148.7            | 1 177.4             | -9.29  | 6.29                          | 840    |                                     |
|                   | S 110 - 142      | 1 148.7            | 1 177.4             | -9.52  | 6.28                          | 840    |                                     |
| NO. 5 WING W.B.T. | P 78 - 110       | 1 193.7            | 1 223.5             | 17.28  | 6.58                          | 639    |                                     |
|                   | S 78 - 110       | 1 175.2            | 1 204.6             | 17.18  | 6.47                          | 639    |                                     |
| NO. 6 WING W.B.T. | P 47 - 78        | 1 176.8            | 1 206.2             | 44.00  | 6.86                          | 586    |                                     |
|                   | S 47 - 78        | 1 168.4            | 1 197.6             | 44.00  | 6.81                          | 586    |                                     |
| AFT PEAK TANK     | C A.E. - 14      | 576.7              | 591.1               | 87.77  | 12.40                         | 6693   |                                     |
| TOTAL             | —                | 15 636.5           | 15 926.7            | —      | —                             | —      |                                     |

## FUEL OIL TANKS

SPECIFIC GRAVITY = 0.950

| COMPARTMENT          | LOCATION FR. NO. | CAPACITY           |                   | WEIGHT  | CENTER OF GRAVITY (96% FULL) |         | MAX. FREE SURFACE (M <sup>2</sup> ) |
|----------------------|------------------|--------------------|-------------------|---------|------------------------------|---------|-------------------------------------|
|                      |                  | 100% FULL (CUB. M) | 96% FULL (CUB. M) |         | MID. G (M)                   | KG (M)  |                                     |
| NO. 1 8TM. F.O.T.    | C 142-175        | 567.2              | 544.5             | 517.3   | -37.59                       | 0.86    | 3479                                |
| NO. 2 8TM. F.O.T.    | C 110-143        | 549.3              | 527.3             | 500.9   | -10.30                       | 0.86    | 3404                                |
| NO. 3 8TM. F.O.T.    | C 78-111         | 549.3              | 527.3             | 500.9   | 16.70                        | 0.86    | 3404                                |
| NO. 4 8TM. F.O.T.    | C 46-79          | 490.3              | 470.7             | 447.2   | 42.43                        | 0.86    | 2768                                |
| H.F.O. SETT. TANK    | P 31 - 34        | 34.2               | * 25.3            | * 24.0  | * 68.92                      | * 11.52 | 10                                  |
| H.F.O. SERV. TANK    | P 33 - 37        | 28.7               | * 24.6            | * 23.4  | * 66.90                      | * 13.61 | 26                                  |
| L.S.H. F.O. SETT. TK | P 36.3-37.8      | 15.9               | * 13.0            | * 12.3  | * 65.60                      | * 13.34 | 5                                   |
| L.S.H. F.O. SERV. TK | P 31.2-35.3      | 21.9               | * 19.5            | * 18.5  | * 67.82                      | * 13.44 | 8                                   |
| TOTAL                | —                | 2 256.8            | 2 119.7           | 2 013.7 | —                            | —       | —                                   |

Note \* : at overflow level capacity

## DIESEL OIL TANK

SPECIFIC GRAVITY = 0.850

| COMPARTMENT     | LOCATION FR. NO. | CAPACITY           |                   | WEIGHT | CENTER OF GRAVITY (88% FULL) |        | MAX. FREE SURFACE (M <sup>2</sup> ) |
|-----------------|------------------|--------------------|-------------------|--------|------------------------------|--------|-------------------------------------|
|                 |                  | 100% FULL (CUB. M) | 88% FULL (CUB. M) |        | MID. G (M)                   | KG (M) |                                     |
| DIESEL OIL TANK | P 39 - 47        | 115.2              | 110.6             | 97.3   | 60.75                        | 1.11   | 881                                 |
| D.O. SERV. TANK | P 85.3-37.5      | 23.1               | * 20.8            | * 18.3 | * 65.63                      | * 9.13 | 13                                  |
| TOTAL           | —                | 138.3              | 131.4             | 115.6  | —                            | —      | —                                   |

Note \* : at overflow level capacity

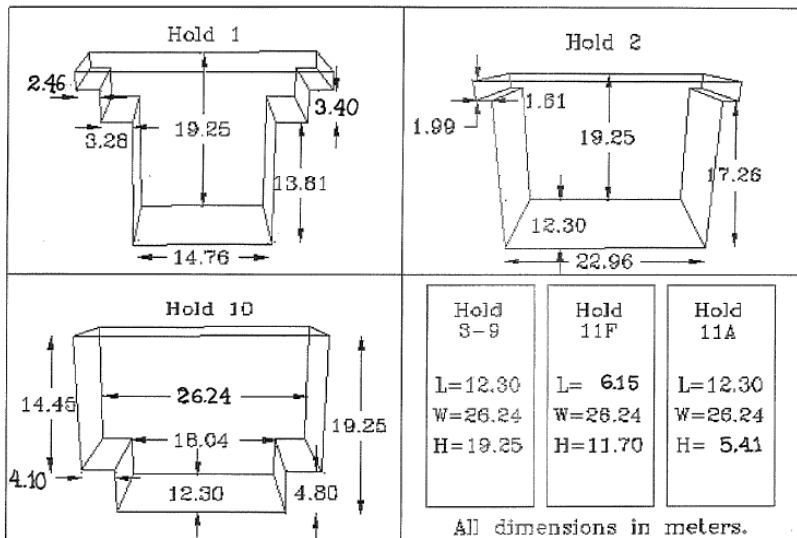


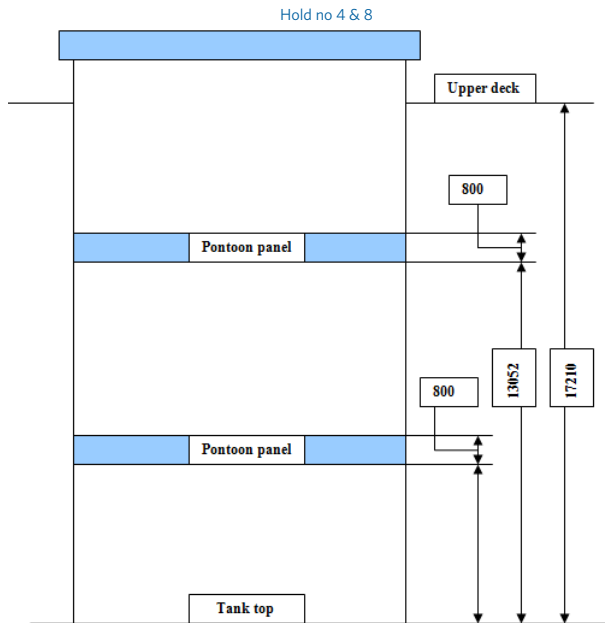




| COMPARTMENT  | LOCATION<br>FR. NO. | CAPACITY |           | CENTER OF GRAVITY |        | HATCH<br>COVER<br>STRENGTH<br>MT/M <sup>2</sup> | TWEEN<br>DECK<br>STRENGTH<br>MT/M <sup>2</sup> |
|--------------|---------------------|----------|-----------|-------------------|--------|---|--|
|              |                     | CUB. M   | CUB. FT   | MID. G<br>(M)     | KG (M) |   |  |
| NO. 01 HOLD  | 191 - 206           | 4.048,8  | 142.983   | -71,05            | 12,43  | 3,00  | 5,5  |
| NO. 02 HOLD  | 175 - 190           | 5.510,5  | 194.603   | -57,55            | 11,55  | 3,00  | 5,5  |
| NO. 03 HOLD  | 159 - 174           | 6.206,4  | 219.179   | -44,05            | 11,43  | 3,00  | 5,5  |
| NO. 04 HOLD  | 143 - 158           | 6.206,4  | 219.179   | -30,55            | 11,43  | 3,00  | 5,5  |
| NO. 05 HOLD  | 127 - 142           | 6.206,4  | 219.179   | -17,05            | 11,43  | 3,00  | 5,5  |
| NO. 06 HOLD  | 111 - 126           | 6.206,4  | 219.179   | -3,55             | 11,43  | 3,00  | 5,5  |
| NO. 07 HOLD  | 95 - 110            | 6.206,4  | 219.179   | 9,95              | 11,43  | 3,00  | 5,5  |
| NO. 08 HOLD  | 79 - 94             | 6.206,4  | 219.179   | 23,45             | 11,43  | 3,00  | 5,5  |
| NO. 09 HOLD  | 63 - 78             | 6.206,4  | 219.179   | 36,95             | 11,43  | 3,00  | 5,5  |
| NO. 10 HOLD  | 47 - 62             | 5.722,2  | 202.079   | 50,45             | 12,04  | 3,00  | 5,5  |
| NO. 11 HOLD  | 31 - 46             | 2.764,7  | 97.635    | 62,83             | 16,19  | 3,00  | 5,5  |
| <b>TOTAL</b> | -                   | 61.491   | 2.171.553 |                   |        |   |  |









## Main engine

One 6-cylinder 2 stroke single acting cross head marine diesel engine

|                |                       |
|----------------|-----------------------|
| Type:          | Mitsui B&W 6S60MC     |
| MCR:           | 10.520 kW at 96,0 rpm |
| NCR:           | 9470 kW at 92.7 RPM   |
| Turbo charger: | Mitsui MAN NA-57      |

## Diesel Generators

Two 8 cylinder 4 cycle single acting diesel engine

|                   |                     |
|-------------------|---------------------|
| Type:             | Rolls Royce KRG-8   |
| Engine output:    | 1.370 kW at 720 rpm |
| Generator output: | 1.300 kW            |

One 5 cylinder 4 cycle single acting diesel engine

|                   |                   |
|-------------------|-------------------|
| Type:             | Rolls Royce KRG-5 |
| Engine output:    | 760 kW            |
| Generator output: | 720 kW            |

## Emergency Diesel Generator

Maker: Mitsui Zosen Machinery & Service Inc.

## Incinerator

One incinerator Sunflame type OSV-900SAI  
900 kW capacity. Burning sludge oil and solid waste

## Air compressors

Two main air compressors:

SPERRE HV2/200  
136 m<sup>3</sup>/h capacity at 30 bar.(3 MPa)

One working air compressor:

SPERRE HV2/300A  
437 m<sup>3</sup>/h capacity at 8 bar. (0,8 MPa)

One diesel generator cold start air compressor:

SANWA S10A, 25 m<sup>3</sup>/h at 30 bar. (3 MPa)

Dehumidifiers:

Type: MA 5000, semi closed, 2 x 5000 m<sup>3</sup>/hour

## Boilers

Auxiliary Boiler, OSAKA Boiler

|                       |                                |
|-----------------------|--------------------------------|
| Type:                 | OEV-120-14                     |
| Steam production:     | 1.200 kg/h                     |
| Working pressure:     | 6 kg/cm <sup>2</sup> (0,59MPa) |
| Fuel oil consumption: | 89 kg/h                        |

Exhaust gas economizer, OSAKA Boiler

|                     |                                 |
|---------------------|---------------------------------|
| Type:               | DC-061510-1B                    |
| Steam production:   | 1.100 kg/h                      |
| Working pressure:   | 6 kg/cm <sup>2</sup> (0,59 MPa) |
| Exhaust gas amount: | 84 240 kg/h                     |

## Bow and stern thruster

Techno Nakashima TC-220N



## Fresh Water Generator

One fresh water generator Alfa Laval  
Type: JWP-28-C100.  
Capacity: 30 tons/day

## Purifiers and Separators

Two HFO purifiers, Alfa Laval type SA830  
2.400 l/h capacity at 380 cSt.

Two M/E lube oil purifiers Alfa Laval type MOPX306  
1.500 l/h capacity at 98 C.

One HEISHIN HSN-SF, 15 ppm Bilge Separator 5 m<sup>3</sup>/h  
Bilge water separator type Bilge Master 3.000.

## Sewage Treatment Plant

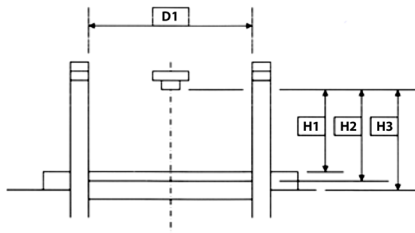
One marine sewage plant, Sasakura Type ST-3A,  
29 person capacity.

## Cargo hold and deck arrangement

Brackets for tween deck (see drawing)  
Two levels in hold 4 & 8  
Benches are fitted in hold 1 & 10  
Cargo holds clear opening 26,24m x 12,30 m  
Hatch cover size 26,64 m x 12,62 m

## Container capacity

|                 |          |
|-----------------|----------|
| On hatch covers | 720 TEU  |
| In holds        | 1350 TEU |
| Total           | 2070 TEU |



## Gantry Crane vital measurements

|                                     |         |
|-------------------------------------|---------|
| Distance between crane legs D1      | 13,95 m |
| Max drift to hatch cover H1         | 6,60 m  |
| Max drift to Cillbeam H2 (mid part) | 6,65 m  |
| Max drift to hatch coaming H3       | 7,45 m  |
| Max drift to hatch cover H1         | 6,60 m  |
| Max drift to Cillbeam H2 (mid part) | 6,65 m  |
| Max drift to hatch coaming H3       | 7,45 m  |