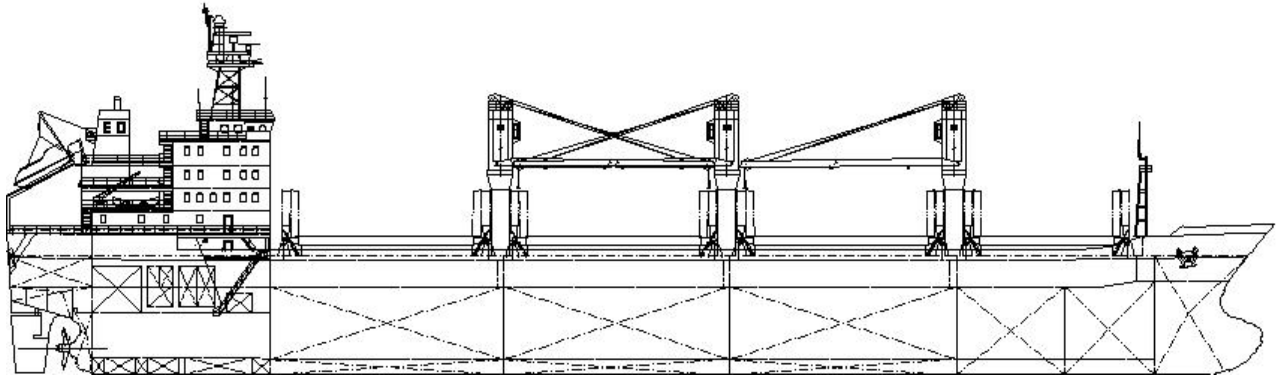


20,000DWT LAKE BULK CARRIER



GENERAL DESCRIPTION

The vessel is a single screw motor driven bulk carrier with machinery and accommodation located aft, having forecastle and five tiers of deck house. Four (4) double side open-hatch cargo holds with folding type hatch covers are served by three (3) deck cranes. The ship is capable of carrying grain in bulk as well as timber/log, hot coil etc.

PRINCIPAL PARTICULARS

| | | | | | |
|------------------------|--------|---|-------------------------|----------------|-----------------------|
| Loa abt. | 149.00 | M | Service speed | 14.2 kn | d_{designed} |
| Lpp | 139.00 | M | (CSR+15%SM with S.G. at | 400 kW) | |
| B | 23.10 | M | Endurance | 13,800 | n.mile |
| D | 13.50 | M | Complement | 25 | P |
| d_{designed} | 7.92 | M | G. tonnage | abt. 13,780 | |
| DWT | 16,500 | T | | | |
| $d_{\text{Scantling}}$ | 9.75 | M | F.O.C. | abt. 22.72 t/d | +5%toler. |
| DWT | 20,000 | T | (F.O. 10,200 | kcal/kg under | ISO) |

CAPACITY

| | | | |
|-------------|------------|------------|----------------|
| Cargo Hold | | | |
| Grain | abt. | 23,700 | m ³ |
| Liquid Tank | | | |
| F.O.T. | | 1,000 | m ³ |
| D.O.T. | | 200 | m ³ |
| F.W.T. | | 350 | m ³ |
| W.B.T. | | abt. 6,700 | m ³ |
| | (Inc. Hold | No.3) | |

CLASS NOTATION

LR ✕ 100A1 Bulk Carrier ESP, Strengthened for Heavy Cargoes, Hold 3 may be empty/Hold No.2 & No.4 May be Empty at 8.5m draft; Ice Class 1D; ✕LMC UMS IWS

FLAG: Liberia

MAIN ENGINE

| | | |
|-------|----------------|-----------|
| Type | MAN B&W 6L50MC | 1 set |
| MCR: | abt. 6650 kW x | 124 r/min |
| CSR : | abt. 5652 kW x | 118 r/min |

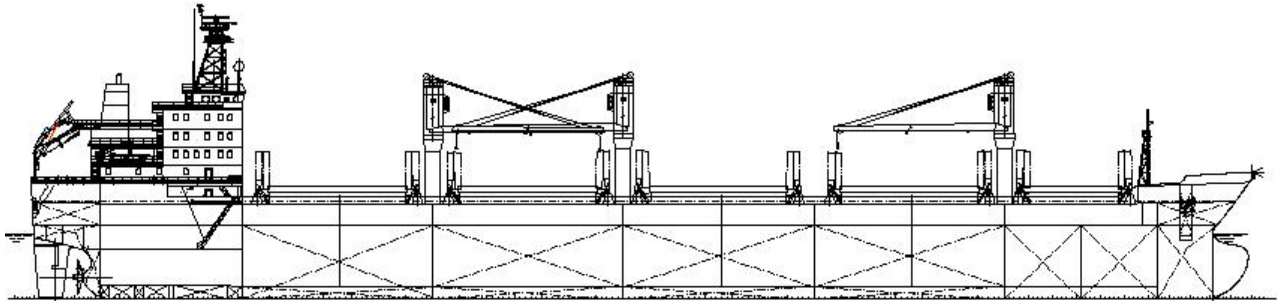
GENERATOR

| | | | |
|-----------------|-------------|----------|-------|
| Shaft Generator | 1 x 440 kW, | 450V, 60 | Hz |
| Main Generator | 2 x 435 kW, | 900 | r/min |
| Emer. Generator | 1 x 80 kW, | 1800 | r/min |
| | 450V, | 60 | Hz |

EQUIPMENT

| | |
|-------------|-----------------------|
| Crane | 3sets x30/25t x18/24m |
| Hatch Cover | Folding type |
| Hold No.1 | 15.40 x 15.00 m |
| Hold No.2-4 | 20.00 x 19.00 m |

25,500DWT LAKE BULK CARRIER



GENERAL DESCRIPTION

The vessel is a single screw motor driven bulk carrier with machinery and accommodation located aft, having forecastle and five tiers of deck house. Five (5) double side open-hatch cargo holds with folding type hatch covers are served by four (4) deck cranes. The ship is capable of carrying grain in bulk as well as timber/log, hot coil etc. and dangerous cargo.

PRINCIPAL PARTICULARS

| | | | | | |
|------------------------|--------|---|-------------------|----------------|-----------------------|
| Loa abt. | 179.99 | M | Service speed | 14.1 kn | d_{designed} |
| Lpp | 170.00 | M | (6770 kW + 15%SM) | | |
| B | 23.10 | M | Endurance | 13,600 | n.mile |
| D | 13.95 | M | Complement | 29 | P |
| d_{designed} | 9.60 | M | G. tonnage | abt. 16,500 | |
| DWT | 25,000 | T | | | |
| $d_{\text{Scantling}}$ | 9.75 | M | F.O.C. | abt. 28.03 t/d | +5%toler. |
| DWT | 25,500 | T | (F.O. 10,200 | kcal/kg under | ISO) |

CAPACITY

| | | | |
|-------------|------------|------------|----------------|
| Cargo Hold | | | |
| Grain | abt. | 30,600 | m ³ |
| Liquid Tank | | | |
| F.O.T. | | 1,500 | m ³ |
| D.O.T. | | 200 | m ³ |
| F.W.T. | | 350 | m ³ |
| W.B.T. | | abt. 8,500 | m ³ |
| | (Inc. Hold | No.3) | |

CLASS NOTATION

LR ✕ 100A1 Bulk Carrier ESP, Strengthened for Heavy Cargoes, Hold 1, 3 & 5 or Hold No.2 & No.4 may be empty at 8.5m draft; Ice Class 1A; ✕LMC UMS IWS: SOLAS II-2 Reg.54: Dangerous Cargo Class 4, 5, 6, 8, 9

FLAG: Liberia

MAIN ENGINE

| | | |
|-------|----------------|-------------|
| Type | MAN B&W 7S50MC | 1 set |
| MCR: | abt. 10010 kW | x 127 r/min |
| CSR : | abt. 6770 kW | x 115 r/min |

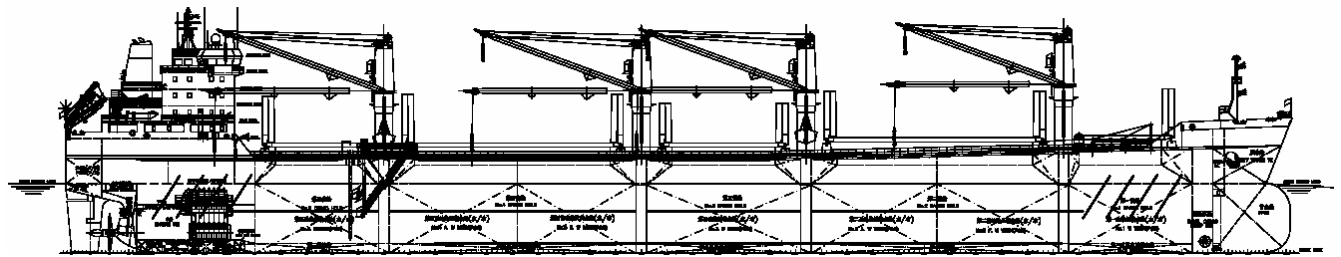
GENERATOR

| | | |
|-----------------|-------------|-------------|
| Main Generator | 3 x 600 kW, | 450V, 60 Hz |
| | 450V, | 60 Hz |
| Emer. Generator | 1 x 80 kW, | 1800 r/min |
| | 450V, | 60 Hz |

EQUIPMENT

| | |
|-------------|-----------------------|
| Crane | 3sets x30/25t x18/24m |
| Hatch Cover | Folding type |
| Hold No.1 | 14.00 x 15.00 m |
| Hold No.2-5 | 20.00 x 19.00 m |

30,000DWT LAKE BULK CARRIER



GENERAL DESCRIPTION

The vessel is a single screw motor driven bulk carrier with machinery and accommodation located aft, having forecastle and five tiers of deck house. Five (5) double side skin cargo holds with folding type hatch covers are served by four (4) deck cranes. Green design concept is integrated. Excellent maneuverability and trim adjusting ability facilitate Great Lakes voyage. The ship is capable of carrying grain in bulk with one or two slack holds. Timber/log, hot coil and container cargoes can also be loaded.

PRINCIPAL PARTICULARS

| | | | | | |
|-----------------------|--------|---|---------------|----------------|-----------------------|
| Loa abt. | 189.90 | M | Service speed | 14.0 kn | d_{designed} |
| Lpp | 182.00 | M | (CSR+15%SM) | | |
| B | 23.70 | M | Endurance | 15,000 | n.mile |
| D | 14.60 | M | Complement | 32 | P |
| d_{Lake} | 7.92 | M | G. tonnage | abt. 20,500 | |
| DWT | 20,500 | T | | | |
| d_{designed} | 10.10 | M | F.O.C. | abt. 26.06 t/d | +5%toler. |
| DWT | 30,000 | T | (F.O. 10,200 | kcal/kg under | ISO) |

CAPACITY

| | | | |
|-------------|------------|--------|----------------|
| Cargo Hold | | | |
| Grain | abt. | 38,000 | m ³ |
| Liquid Tank | | | |
| F.O.T. | | 1,300 | m ³ |
| D.O.T. | | 130 | m ³ |
| F.W.T. | | 250 | m ³ |
| W.B.T. | abt. | 14,000 | m ³ |
| | (Inc. Hold | No.3) | |

CLASS NOTATION

GL ✕ 100A5 100A5 Bulk Carrier ESP, Strengthened for Heavy Cargoes, Hold No.1, 3 & 5 May be Empty; Strengthened for Regular Discharge by Heavy Grabs; Ice Class E1; ✕MC AUT E1, IW; SOLAS II-2 Reg.54: Class 4.1, 4.2, 5.1, 6.1, 8; Hold No.3 May be Water Ballast Tank.

FLAG: Liberia

MAIN ENGINE

| | | |
|-------|----------------|-----------|
| Type | MAN B&W 6S46MC | 1 set |
| MCR: | abt. 6950 kW x | 113 r/min |
| CSR : | abt. 6255 kW x | 109 r/min |

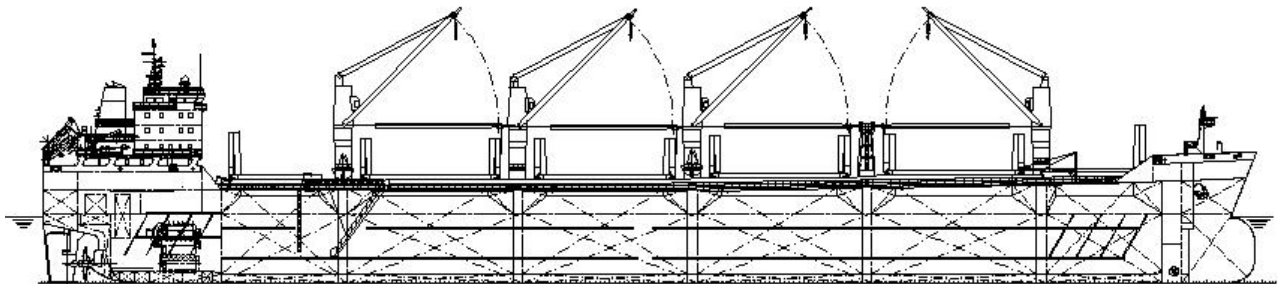
GENERATOR

| | | |
|-----------------|-------------|------------|
| Main Generator | 3 x 560 kW, | 900 r/min |
| | 450V, | 60 Hz |
| Emer. Generator | 1 x 125 kW, | 1800 r/min |
| | 450V, | 60 Hz |

EQUIPMENT

| | | | |
|---------------|---------------------|--------------|-----------------|
| Crane | 4 sets x 25 t x 24m | Bow thruster | 1 x 800 kW |
| Hatch Cover | Folding type | | |
| Hold No.1 | 12.80 x 15.60 m | Hold No.3 | 16.00 x 17.60 m |
| Hold No. 2, 4 | 30.40 x 17.60 m | Hold No. 5 | 12.80 x 17.60 m |

35,200DWT LAKEMAX BULK CARRIER (‘LUCKY’ Series)



GENERAL DESCRIPTION

The vessel is a single screw motor driven container ship with machinery and accommodation located aft, having forecastle and five tiers of deck house. Six (6) double side skin cargo holds with folding type hatch covers are served by four (4) deck cranes. Green design concept is integrated. Excellent maneuverability and trim adjusting ability facilitate Great Lakes voyage. B-60 freeboard is adopted to maximize deadweight. The ship is capable of carrying grain in bulk with one or two slack holds. Timber/log, hot coil and container cargoes can also be loaded.

PRINCIPAL PARTICULARS

| | | | | |
|------------------------|----------|---------------|---------------|-----------------------|
| Loa abt. | 199.90 m | Service speed | 14.0 kn | d_{designed} |
| Lpp | 192.00 m | (CSR+15%SM) | | |
| B | 23.70 m | Endurance | 16,000 | n.mile |
| D | 15.30 m | Complement | 32 | P |
| d_{designed} | 10.75 m | G. tonnage | abt. 22,650 | |
| DWT | 35,200 t | | | |
| $D_{\text{Scantling}}$ | 11.27 m | F.O.C. | abt. 29.5 t/d | +5%toler. |
| DWT | 37,000 t | (F.O. 10,200 | kcal/kg under | ISO) |

CAPACITY

| | | | |
|-------------|------------|--------|----------------|
| Cargo Hold | | | |
| Grain | abt. | 42,700 | m ³ |
| Liquid Tank | | | |
| F.O.T. | | 1,300 | m ³ |
| D.O.T. | | 150 | m ³ |
| F.W.T. | | 250 | m ³ |
| W.B.T. | abt. | 18,000 | m ³ |
| | (Inc. Hold | No.4) | |

CLASS NOTATION

GL ✕ 100A5 100A5 Bulk Carrier ESP, Strengthened for Heavy Cargoes, Hold No.2 & No.5 May be Empty At 10.75m Draft; Strengthened for Regular Discharge by Heavy Grabs; Ice Class E1; ✕MC AUT E1, IW; SOLAS II-2 Reg.54: Class 4.1, 4.2, 5.1, 6.1, 8; Hold No.4 May be Water Ballast Tank. and ABS equivalent

FLAG: Antigua

MAIN ENGINE

| | | |
|-------|------------------|-----------|
| Type | MAN B&W 6S46MC-C | 1 set |
| MCR: | abt. 7860 kW x | 129 r/min |
| CSR : | abt. 7074 kW x | 125 r/min |

GENERATOR

| | | |
|-----------------|-------------|------------|
| Main Generator | 3 x 600 kW, | 900 r/min |
| | 450V, | 60 Hz |
| Emer. Generator | 1 x 134 kW, | 1800 r/min |
| | 450V, | 60 Hz |

EQUIPMENT

| | | | |
|--------------|-----------------|--------------|---------------------|
| Hatch Cover | Folding type | Crane | 4 sets x 40 t x 26m |
| Hold No.1 | 20.00 x 14.00 M | Bow thruster | 1 x 850 kW |
| Hold No. 2-5 | 20.80 x 19.60 M | | |