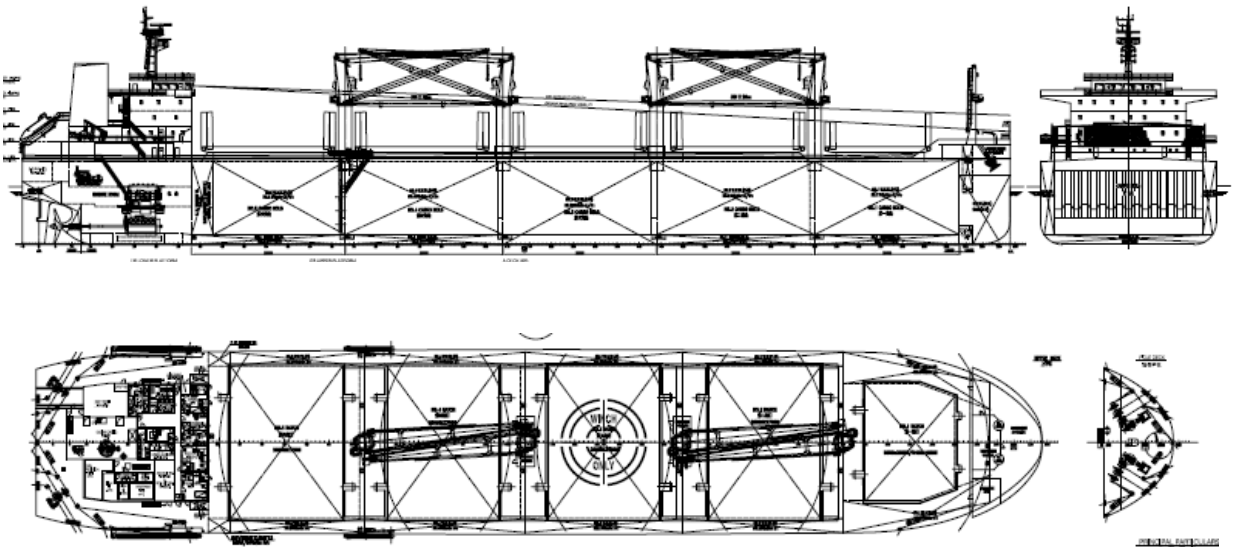
# 40000 DWT BULK CARRIER – POCKET PLAN

40,000 DWT worldwide service, 5 holds, with open hatch, box shaped hold nos. 2/3/4, multipurpose dry cargo, ice class 1C, eco-friendly, fuel efficient double skin bulk carrier, with service speed 13.70 knots fully loaded , equipped with electronic MAN 5S 50ME – B9.3 two stroke diesel engine with part load tuning for low load operations , exhaust gas economizers for diesel generators, electric winches, BWTS, cargo hold washing and 4 sets hydraulic level luffing cranes and hydraulically operated folding type hatch covers.

**OWNER: INTERLINK MARITIME CORP., BERMUDA**
**BUILDER: TAIZHOU KOUAN SHIPBUILDING CO., CHINA**

**SUPERVISION: SCHULTE MARINE CONCEPT LTD, HONG KONG**

## GENERAL ARRANGEMENT



# OUTLINE PARTICULARS

## TYPE OF VESSEL

Single screw motor driven double skin bulk carrier, capable of carrying dry bulk and break bulk cargo, such as coal, bauxite, phosphates, iron ore, coke, grain including soya, soya bean meals, salt, sugar, fertilizers, steel products (sheet, rolls, coils, pipe), forest products in holds, bagged cargoes and cargoes of BC code
[Dangerous goods class:1.4S, 2.2, 2.3, 3.3, 4.1, 5.1, 6.1 (solids), 8 (solids), 9]

## FLAG AND HOME PORT OF VESSEL

Flag: Marshall Islands, Home Port: Majuro

## CLASSIFICATION

American Bureau of Shipping
ABS A1, Bulk Carrier, BC-A Holds 2 & 4 may be empty, ESP, AMS, ACCU, CSR, AB-CM.

Addtl. Notations : BWE, BWT, GP, CRC(I), ENVIRO, GRAB 20, Ice Class 1C, RRDA, TCM, UWILD. **EEDI-Ph3**

## PRINCIPAL DIMENSIONS

| | |
|---|---|
| Length O.A. | 180.00 m |
| Length B.P. | 177.00 m |
| Breadth Mld. | 32.00 m |
| Depth Mld. | 15.00 m |
| Designed Draft Mld. | 9.50 m |
| Scantling Draft Mld. | 10.75m |
| Air draft in full load cond. | ~31.20m |

## HOLD DIMENSIONS(*Footprint*) (Lx B)

No.1: 25.5 x 19.5/4.25 m Breadth tapered

No.2: 28.7 x 27.0 m

No.3: 26.3 x 27.0 m

No.4: 27.9 x 27.0 m

No.5: 28.0 x 4.5/25.0 m Breadth tapered

## HATCH SIZES

No.1 Hatch: 9.6/6.4 m (l) x 20.8/16.2 m (w)
No.2-5 Hatches: 20.0 m (l) x 27.0 m (w)

Dist. From WL to top of hatch coaming: 16.9 m

## LOADING DIMENSIONS

### Deadweight:

| | |
|---|---|
| At designed draft | abt. 33,300 metric tons |
| At the scantling draft | abt. 40,000 metric tons |
| Gross Tonnage | abt. 25,546 |
| Net Tonnage | abt. 13,675 |

Alternate hold loading

### Capacity:

| | |
|---|---|
| Cargo hold (grain) | 50,900 $m^3$ |
| Cargo hold (bale) | 49,400 $m^3$ |
| Ballast water (incl. clean WBT) | 16,500 $m^3$ * |
| Ballast water (excl clean WBT) | 12,000 $m^3$ |
| Heavy fuel oil | 1,000 $m^3$ |
| Diesel oil | 60 $m^3$ |
| LSMDO / MGO | 300 $m^3$ |
| Fresh water | 200 $m^3$ |
| Drinking water | 50 $m^3$ |

* Ballast water (incl. clean WBT) for Heavy Ballast condition without any hold flooding.

## DESIGN CONDITION

### Upper deck hatch cover:

Uniform Load 3.0 $t/m^2$

### Upper deck:

| | |
|---|---|
| Outside line of opening | 2.5 $t/m^2$ |
| Inside line of opening | 2.5 $t/m^2$ |

### Tank Top:

Uniform Load 25 $t/m^2$

Strengthened for forklift 10 T SWL

### Steel Coil Loading:

Load 40 t (two tiers each of 20 t)

Length 1800 mm

Dunnage 3

### Grab weight:

Un-laden grab weight 20T
Seats are provided on deck for SMAG Grab Type: MZGL 12000-6-B-S

## SPEED AND ENDURANCE

Service speed at CSR power of M/E (4575 kW, 75% CMCR) at scantling draft of 10.75 m, abt. 13.56 knots (or 14.00 knots at design draft), including 15% sea margin.

Endurance based on fuel oil consumption of 42,700 kJ/kg lower calorific value, service speed of 14.0 knots and main engine run at CSR with 15% S.M. to be abt. 18,000 N. mile.

### Fuel Consumption (HFO 380 cst grade):

| | | | |
|---|---|---|---|
| Main Engine: | abt. | 21.0 t/day | @14.0 knots |
| | abt. | 19.0 t/day | @13.5 knots |
| | abt. | 16.5 t/day | @13.0 knots |
| | abt. | 14.5 t/day | @12.5 knots |
| 1 Elec. Gen: | abt. | 2.5 t/day | @sea load of 460 kW |
| *using MDO | abt. | 4.5 t/day* | @port, cranes working |
| | abt. | 2.0 t/day* | @port, w/o cranes |

## PROPULSION & AUX. MACHINERY

### Main engine:

| | |
|---|---|
| Make and model | MAN 5S 50ME-B9.3 – 1 set (IMO NOx Tier II compliant) Part load tuning, EGB |
| CMCR | 6100 kW at 99.0 rpm |
| CSR (75% CMCR) | 4575 kW at 89.9 rpm |
| Propeller: | Four (4) blades, solid fixed pitch, aerofoil section keyless, nickel aluminium bronze casting |

### Electric generator:

| | |
|---|---|
| Main D. Generator (HFO) | 3 sets x abt. 700 kW each |
| Emergency DG (MGO) | 1 set x abt. 120 kW |

### Boiler (Smoke tube type):

| | |
|---|---|
| Oil fired section | 1.5 t/hr |
| EGE for M/E | 0.3t/hr |
| EGE for DGs | 0.36t/hr |

## CARGO HANDLING

### Cargo gear:

Four (4) sets Mc Gregor single electro-hydraulic wire luffing type jib cranes with provision for grab handling.

| | |
|---|---|
| Hoisting load | 30 t |
| Hoisting speed | 25 m/min |
| Working radius | About 4 m to 26 m |
| Outreach beyond half breadth, maximum | 10 m |
| Luffing time | 55 seconds |
| Slewing speed | 1.0 rpm |

### Cargo hatch cover:

Steel folding type, weather tight double skin construction, hydraulically operated, grain and cement openings.
Pump unit 100% x 2 sets

### Container carriage on Hatch Cover

Carriage of empty containers in 2-tier on top of hatch covers .
No. of 20TEU empty containers ' 165 nos. max.

### Cargo hold ventilation:

Explosion proof exhaust fans at 6 air changes per hour.

### Bilge and Ballast system:

Ring main with remote hydraulically operated valves & stripping eductor of 50 $m^3$/ h.
Centralized control for ballast, bilge and stripping valves in ship office.

### Ballast pump:

Electric motor driven centrifugal, bronze casting and phosphor bronze impeller, 700 $m^3$/h x 0.30 MPa – 2 sets

### Ballast Water Treatment Plant:

USCG approved BWT Plant, filtration and UV type, 700 $m^3$/hr capacity – 2 sets

### Cargo hold washing : Fitted

## ACCOMMODATION

European type – Vacuum Toilets and shower

| | | |
|---|---|---|
| Complement: | Captain class | 2 |
| | Senior Officer class | 2 |
| | Junior Officer class | 6 |
| | Rating class | 13 |
| | Owner, Pilot | 2 |
| | Total | 25 |

Gymnasium fitted for 6 Suez Crew

Life saving equipment for persons 25

## AIR CONDITIONING SYSTEM

High velocity, single duct system

| | | |
|---|---|---|
| Design condition summer | outside | 35°C, 70% rel. humidity (RH) |
| | inside | 26°C, about 50% RH |
| winter | outside | -20°C |
| | inside | 22°C, about 50% RH |

## CORROSION PROTECTION

(PSPC COMPLIANCE FOR WBT)

| | |
|---|---|
| Vertical & flat bottom | SPC antifouling paint, Tin Free, 60 month guarantee |
| Top side | Pure Epoxy/Polyurethane |
| Deck | Pure Epoxy/Polyurethane |
| Cargo holds | Pure Epoxy paint |
| Hatch covers | Pure Epoxy/Polyurethane |
| Superstructure | Pure Epoxy/Polyurethane |
| Ballast water tanks | Pure Epoxy paint 60 month guarantee Sacrificial anodes in WBT |
| External hull | Impressed current cathodic protection & anodes in stern |

# CHARACTERISTICS

The following major characteristics shall be applied:

| | | | | | |
|---|---|---|---|---|---|
| ● | Worldwide transportation including Panama and Suez Canals | | ● | IMO approved Ballast Water Treatment Plants to treat ballast water during ballasting and de-ballasting. |
| | Energy efficient design with projected EEDI reduction of around 25% from IMO norms. | | | Green Passport (IHM) implementation |
| ● | Ice Class 1C | | ● | EU & CARB compliance- MGO burning facility for main engine, generators, boiler at Port. |
| ● | Fuel efficient hull form | | ● | Adaptability of fuel system on board for main engine & generators to be able to burn HFO grade 700 cst |
| ● | Good level of redundancy of critical equipment | | ● | Heavy fuel oil generators eliminating diesel oil consumption at sea |
| ● | Five (5) Cargo holds all double skinned and corrugated bulkheads | | ● | Centralized fresh water cooling system in engine room |
| ● | Four (4) wide open hatches ( > 80% of beam) for easy spotting of cargoes | | ● | Citadel anti-piracy protection for crew. |
| ● | Dangerous cargo carriage facility in holds | | ● | Independent shower and toilet units for officers and semi-private units for ratings |
| ● | Flexibility of carrying various cargoes including: | | ● | Maintenance free refrigeration units for provision cabinets |
| ● | - | Dry bulk and break bulk such as grain, metal concentrates, coal, iron ore, bauxite, salt, sugar, cement in bags and scrap metal | ● | CO2 fire extinguishing system for cargo holds |
| ● | - | General cargoes such as steel products, forest products, packaged freight and palletized cargo | ● | Mechanical ventilation for Cargo Holds |
| ● | - | Long cargoes such as pipes, packaged lumber and deck cargoes | ● | Exhaust gas recovery for heating from DG exhaust, even when the vessel is in port. |
| ● | - | 2-tier empty container carriage on deck -165 nos. | ● | Part load tuning of main engine for fuel consumption optimization |
| ● | Strengthened for heavy cargoes – cargo hold tank top is strengthened for grab handling and fork lift op. | | ● | Corrosion-prevention features: IMO PSPC compliance for water ballast tanks |
| ● | Hold 2, 3 and 4 box-shaped with no hopper or wing tanks. | | ● | Interactive ergonomic Bridge design |
| ● | "B" type freeboard – Drier decks in loaded condition | | ● | Equipped with V-Sat & FBB and full GMDSS application |
| ● | Tank top strength – 25 t/$m^2$ | | ● | Monorail 4 T capacity for provision & engine room parts handling. |
| ● | Cargo hatch cover uniform load of 3.0 tons/$m^2$ | | ● | Embodies anticipated future legislation requirements |
| ● | Alternate loading in holds 1, 3 and 5 | | ● | Designed and constructed for long reliable service and optimum life-cycle cost |
| ● | Hold flooding not required in heavy ballast condition. It is possible to manage with WBT. | | ● | Vacuum toilet system for conservation of water |
| ● | Pre-swirl duct and Hub vortex absorption fin for improved propeller efficiency. | | ● | Segregation for clean and dirty water ballast tanks |
| ● | | | ● | |
| ● | | | ● | |