

Seahorse 35

DOUBLE HULL BULK CARRIER

Becker Mewis Duct® Version

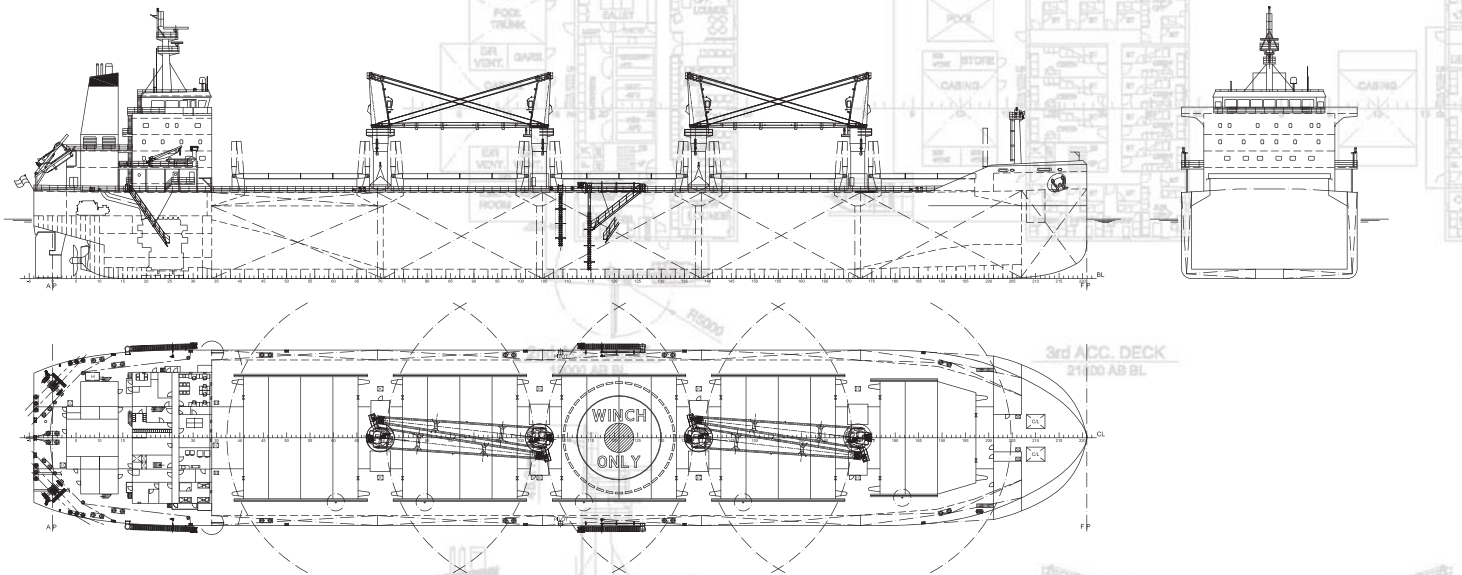


Bulk Carrier of the future

Seahorse 35

DOUBLE HULL BULK CARRIER

Becker Mewis Duct® Version



SEAHORSE 35 is a modern 35,000 DWT handysize Bulk Carrier, designed in close cooperation with shipowners with the aim to create a future orientated handysize Bulk Carrier incorporating all existing and known future regulations.

The SEAHORSE 35 design is developed with specific focus on:

- Economical and efficient operation
- Environmental and maintenance friendliness
- Safety
- Loading flexibility
- Latest regulations for Bulk Carriers

SEAHORSE 35 is shallow-drafted to maximize cargo-intake in draft-restricted ports.

SEAHORSE 35 is laid out with 5 flush doubleskinned cargo holds, wide hatches and no hopper tanktops, thereby ensuring easy access and storage of cargo in all cargo holds.

SEAHORSE 35 cargo holds are equipped with CO₂ fire-fighting system, A60 fire-insulated engine room bulkhead and natural cargo hold ventilation ensuring safe carriage of a wide range of bulk cargoes.

SEAHORSE 35 is equipped with four 30.5 mts SWL wire-luffing cargo cranes and four motor-grabs stowed on cross-decks between hatches.

Short turn-around time is achieved by the complete flush cargo holds and effective cargo hold cleaning by portable washing machines. Outlets of water and compressed air are arranged in all cargo holds at tanktop-level.

A permanent washing water return line is arranged in each cargo hold at tanktop level. A portable pneumatic pump can, via the return line, transfer dirty washing water to two cargo hold washing water holding tanks arranged for temporary storage to enable cargo hold cleaning in sensitive and restricted areas.

IMO approved ballast water treatment plant capacity 2×800 m³/h

Fire main line, hydraulic and FW piping and electrical cables in cargo area are arranged in upper deck pipe ducts to avoid cargo and green water damage and ensure minimum maintenance.

Main and Auxiliary Engines are all complying with IMO's NOx Tier II requirements.

The SEAHORSE 35 is laid out to operate two HFO and MDO grades, ie low sulphur fuel operations can be ensured in SECA areas and harbors.

A slender afterbody and a high efficient NPT propeller ensures optimal performance with minimum fuel oil consumption. Furthermore a vertical stem design is adopted to improve the fuel efficiency in adverse weather conditions.

In order to further lower the fuel consumption, SEAHORSE 35 is fitted with Becker Mewis Duct, which is presently the most effective energy saving device available.

Principal dimensions

Length OA, max	180.0 m
Breadth	30.0 m
Depth	14.7 m
Scantling draft	10.10 m
Gross tonnage	24,366
Net tonnage	11,521

Deadweight and cargo hold capacity

DWT at scantling	35,000 t
TPC	50 t/cm

Cargo hold no 1	7,900 m ³
Cargo hold no 2, 3, 4	9,800 m ³
Cargo hold no 5	9,400 m ³

Total cargo hold capacity, grain	46,700 m ³
Total cargo hold capacity, bale	45,800 m ³

Stowage factor(T=10.10m)	50 cuft/t
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Uniform distributed loads:

Tanktop all cargo holds	25.0 t/ m ²
Weather deck	4.0 t/ m ²
Hatch covers	2.5 t/ m ²

Steel coil loading:

2 tiers of 22.5 t/coil (L > 1.75m, 5 dunnages)
1 ½ tier of 30.0 t/coil (L > 1.75m, 5 dunnages)

Class notation

Det norske Veritas +1A1 Bulk Carrier ES(D), CSR, BC-A (CH 2&4 empty), GRAB(20), ESP, E0, HA(+), DK(+), DG-B, TMON, BIS, RECYCLABLE, BWM-T, CLEAN

Option: Ice class 1C, 1B, 1A or Log-fitted

Speed and Consumption

Service speed	Fully Laden	14.0 knots
	Ballast	14.9 knots
ECO speed	Fully Laden	13.0 knots
	Ballast	14.0 knots

Main engine fuel oil consumption (MDO):

Service speed	20.1 t/day
ECO speed	15.9 t/day

Auxiliary engine consumption (MDO):

At sea	2.0 t/day
In port, idle	1.4 t/day
In port, cranes in operation	4.2 t/day

Consumption is based on scantling draft, including 15% sea-margin. LCV for MDO is 42,700 kJ/kg.

Main engine fuel oil consumption (HFO):

Service speed	21.4 t/day
ECO speed	16.9 t/day

Auxiliary engine consumption (HFO):

At sea	2.1 t/day
In port, idle	1.5 t/day
In port, cranes in operation	4.5 t/day

Consumption is based on NCR (service speed) at scantling draft including 15% sea-margin. LCV for HFO is 40,200 kJ/kg

Endurance:

At service speed incl. Aux/E	20,100 nm
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IMO Energy Efficiency Design Index:

EEDI 5.28 g/Dwt-nm (19.6% below base line)

Main machinery and equipment

Main engine	MAN 5S50ME-B9.3 TII or WÄRTSILÄ 5RT-flex50D
– SMCR	6,050 kW
– NCR (service speed)	5,250 kW
– NCR (ECO speed)	4,150 kW
Aux engines	3 x 650 kW
Emergency generator	110 kW
Ballast pumps	2 x 800 m ³ /h
Water Ballast Treatment System	1,600 m ³ /h

Complement

Senior officer class	4
Officer class	6
Petty officer / Rating class	15
Total complement	25

General Bulk Cargoes

Grain, Cement, Iron Ore, Alumina, Bauxite, Mineral Sand, Salt, Steel Products, Scrap Iron, Timber etc.

Dangerous Bulk Cargoes (IMSBC)

Aluminum Nitrate, Ammonium Nitrate, Barium Nitrate, Brown Coal, Calcium Nitrate, Castor Beans, Charcoal, Coal, Copra, DRI (A), Ferros Metal, Fishmeal, Fluorspar, Lead Nitrate, Lime, Linted Cotton seed, Magnesia, Magnesium Nitrate, Metal Sulphide Conc., Peat Moss, Pet Coke, Pitch Prill, Potassium Nitrate, Pyrites, Radioactive Material, Sawdust, Seed Cake (a), Seed Cake (b, mech. exp. only), Sodium Nitrate, Sulphur, Tankage, Vanadium Ore, Woodships, Wood Pellets.

Cargo loading

Deck cranes:

4 sets of wire-luffing deck cranes	
Safe working load (SWL)	30.5 t
Max. outreach from CL of vessel	26.2 m
Minimum outreach	4.0 m

Hatch covers:

5 sets of end-folding, double-skinned, hydraulic operated steel hatch covers with grain/cement feeder openings.

Hatch opening (LxB):

Hatch no 1	16.0m x 18.7m/15.0m
Hatch no 2, 3, 4 and 5	19.2m x 20.3m

Cargo Equipment:

Lashing points on upper deck for securing of cargo on upper deck and on hatch covers.

Lashing points on longitudinal bulkheads in cargo hold 2, 3 and 4 for securing of cargo in holds.

Permanent CO₂ fire-fighting system for all cargo holds.

Engine Room bulkhead A-60 fire-insulated.

Cargo hold cleaning:

2 portable air/water driven combi-guns and 2 portable pneumatic air driven washing water discharge pumps. Permanent SW, FW and compressed air connections in each cargo hold at tanktop level. Permanent washing water return line connected to washing water holding tanks in each cargo hold.

Tank capacities

Heavy fuel oil	1,570 m ³
MDO/MGO	350 m ³
Lub oils	100 m ³
Fresh water	250 m ³
Ballast water (excl CH 3)	12,800 m ³
Ballast water (incl CH 3)	22,600 m ³
Washing water holding tanks	220 m ³

Fuel oil, ballast and fresh water tanks are equipped with remote tank gauging.

All HFO tanks arranged in Engine Room with cofferdams towards shipside.

GRONTMIJ

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MARINE DEPARTMENT

The marine department provides ship design for all ship types and covers all aspects of modern ship design, including conceptual ship design, structural design, stability and safety aspects, hull and propulsion optimisation, machinery design, vibration and noise analysis, all in accordance with classification rules and flag state requirements. More than 250 newbuildings has been build according to our design. Head office of Marine department is located in Copenhagen with branch offices in Odense and Shanghai. We have long and close relationship with ship owners in Europe and combined with our local knowledge and experience with, the ship building industry in Asia, we provide first class service to our Clients.

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