

Ship Building i n d u s t r y

Flinter Arctic

MULTIPURPOSE PROMISE

Liquid Engine

BLACK LIQUOR AND LPG

Europaort Istanbul

HIGH POTENTIAL GATHERING

Momentum Scan

SOLE SERIES



Momentum Scan

Exceptional Workhorse



Photo courtesy of Flying Focus

MOMENTUM SCAN

BUILDER
OWNER
YARD NUMBER

Peters Shipyards
Canada Feeder Lines
901



Photo courtesy of Wim te Brake

The Momentum Scan – developed and delivered by Peters Shipyards on 8 November, 2010 in Harlingen, the Netherlands – is the first ship in the Sole 10,000 series that for the time being has four build numbers (901-904). It is the largest type built so far on the Dutch wharf in Kampen. By G.J. de Boer.

The Momentum Scan (initially CFL Momentum) was launched on 11 September, 2010 after having been christened by Ina Dijkstra, mother of Kees Koolhof, founder and director of CFL and Audrey Huyser, his cousin-once-removed. With a width of 17.80 m, the ship could barely pass via the Ketelbrug after completion. The sea trials were held on 22 October from IJmuiden, and from Harlingen on 26 October. A biannual time charter has been agreed upon for the new ship with the Danish Scan-Trans Chartering ApS in Naestved. The Momentum Scan left Harlingen on November 13 for the first journey via the Kielerkanaal to Djurön (nearby Norrköping) for loading grain for Tanger. After this task, the journey was continued to Porto Marghera and Illychivsk (near Odessa) for picking up construction parts and project cargo for Basrah.

Canada Feeder Lines

The Canada Feeder Lines (CFL) ships are easily recognised by their unique, fresh, green and white colour scheme. These colours in fact symbolise the fact that the vessels are made for sailing in ecologically vulnerable areas. The scheme and the logo, which depicts infinity, has been designed especially for CFL by graphic designer Esther Fledderman from Groningen.

CFL, located in Groningen, was founded by Kees Koolhof and a group of affiliated partners in 2006, after performing an extensive market research. The motto was 'First the market, then the fleet.' Under Dutch directorship and with a fleet of vessels built exclusively in the Netherlands, which only sail under the Dutch flag, CFL expects to gain a unique position on the worldwide market for the transport of goods over sea. The statutory seat of CFL is Groningen, which is also the home port of the ships. The market strategy is determined in Groningen and the newbuild is technically and financially prepared here as well. Contacts with shareholders and partners are also maintained in this city.

The commercial and financial management of the ships is supervised by CFL Shipmanagement in Utrecht, which is a 100% CFL subsidiary. The

director of this branch, which includes the departments of financial administration, purchasing, technical service, staff issues, newbuild supervision, ISM and VGM, is Walter Huisman.

Short Sea Shipping

The expectation is that in the following years the share of the short sea shipping will grow at a faster rate than in other branches of navigation. There is an increasing demand for dry bulk capacity and for the transport of both containers and project cargoes of unusual specifications to destinations that are difficult to reach and that have just few facilities and extreme climatic conditions, such as for instance ports in the BRIC countries (Brazil, Russia, India and China). CFL has therefore decided to build a fleet in conformity with their own specifications, with Peters Shipyards in Kampen being the most important partner.

The first ships (four vessels of the Jumbo 6500 1B type and five of the Jumbo 6500 1A type) in the CFL fleet have been contrived and developed in order to meet the current and future market demand for flexible transport capacity. These multipurpose ships are very well suited for transporting rolls of steel, bulk, grain, forest products, project cargoes and dangerous cargo. The fuel consumption is low, due to the use of light engines. Sailing at a speed of 11.5 knots, the ships use 8.5 t of fuel per day.

Ideal Work Horse

The very innovative Sole 10,000 type – of which the Momentum Scan is the first – was conceived and prepared by Kees Koolhof and Geert van Voorn from Peters Shipyards, after which the design was worked out further by the shipyard. The ship was created as to become the ideal workhorse among seagoing vessels. The hull was elaborately tested in the towing tank of Marin. The most striking details are the strait bow, instead of the common bulbous bow, the wheelhouse on a slanted pedestal, which is placed aft, the accommodation found below deck and the extremely long box-shaped hold. The ship has been built as economically as possible in the Peters newbuild hall, using the minimum amount of components and





Photo courtesy of G.J. de Boer



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Rescue Mission

The CFL Momentum Scan has rescued a large number of Afghan boat refugees between Greece and Italy from the Mediterranean Sea. At around 10 PM on Saturday evening, January 15, 2011, Captain Martin Remeus of the Dutch Momentum Scan ship in the Adriatic Sea off the coast of Corfu received an emergency call from the Greek coastguard. At a distance of 17 miles, a 20m long fishing vessel was sinking, along with 263 people on board. The weather at the moment of rescue was stormy (7 to 8 Beaufort) and there was a heavy sea swell. After sailing for one hour, the Momentum Scan reached the fishing boat, and the Filipino crew threw gangway nets into the water, via which the shipwrecked people were able to climb up. Rope ladders were used as well. The children were rescued first, followed by the women. Finally the men were rescued. Many of them climbed up themselves. 241 people were rescued in total, including 46 women and children. A number of refugees got caught between the two vessels and died. 22 people went missing. Three minutes after the last man had left the fishing boat, it broke in two and sank. After sailing for ten hours, the ship arrived at the Greek port of Corfu, where two of the shipwrecked people were arrested for suspected human trafficking. Only four hours after the people got off the ship, the Momentum Scan continued its journey to the Ukraine.



Photo courtesy of G.J. de Boer

welding work and with as many identical frames as possible. An exception was the V-shaped section of the stern and the bow section. The bow was built at Leda Shipyard in Korcula, which is affiliated to Peters, and was shipped to Kampen.

Voluminous Cargo

As the Sole 10,000 will transport mostly voluminous cargo with a low specific weight, the ship is not provided with a bulbous bow. The shallow draught varies greatly along with the project cargo, and so the advantage of the bulb is not always optimal. The superstructure includes only the engine room casing, the stairway and the ship's office. The nice and spacious accommodation for the crew, which has been designed by yacht interior designers and has been furnished by Peters' fully automated interior construction department, is located beneath the main deck. All cabins and public areas are air-conditioned. The wheel house has been set up spaciouly and is equipped with the most advanced navigation equipment.

The hold has a height of 11.79 m, a length of 70.50 m and a width of 15.20 m, which makes the ship highly suitable for transporting first-rate project cargoes with special measurements below deck, such as (parts of) wind turbines, electricity masts, vessel parts and segments of offshore installations, without the need for dismantling. With the tweendecks, the cargo hold can be divided into parts as desired for loading different kinds of cargo.

Multi-Purpose

The Sole 10,000 was initially developed for transporting project cargo, but the vessel is also suitable for transporting all variants of dry bulk, and has a container capacity of 426 TEU (232 TEU below deck, 194 TEU above deck). The front part of the hold, which can be separated by means of placing grain bulkheads, has been set up for transporting dangerous cargo.

Due to the relatively low draught (maximum of 7.90 m) and the length (116.26 m) of the ship, destinations can be reached that are literally unreachable for vessels with a similarly sized hold. With these dimensions, the ships of the Sole 10,000 type can reach all imaginable harbours in Europe, Africa, Asia and Latin America. A ship with a comparably sized hold is normally 150 m or longer, and has two holds. Another design innovation – the overhanging of the deck hatches – has increased the deck surface available for deck cargo by 15%.

Exceptional Cargo

Besides an exceptional project cargo, large yachts or hulls can also be taken along as deck cargo. The hatches can be hoisted with the cranes and stacked into a 'hole' for the accommodation. The ventilation trunks can be removed, if necessary. The hole can be covered and connected to the pontoon hatches by means of a tweendeck partition, which creates a continuous loading surface of 85 m, with



Photo courtesy of G.J. de Boer



Photo courtesy of Wim te Brake



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a maximum load of 2.6 t/m². This also caters to the growing market of yacht transport. Just like the Jumbo 6500, which actually inspired the design, the stern and hull are additionally fortified for transporting heavy cargoes. The Sole 10,000 is equipped with two NMF deck cranes on the port side (each with a SWL of 80 t and 160 t in tandem) with a coverage of 14 m, by which in principle every harbour can be reached for loading or unloading. If a spreader bar with a length of 20 m is used, then the maximum hoisting capacity is 145 t.

Economical and Sustainable

The Sole 10,000 also distinguishes itself in the area of energy efficiency and ecological durability. The relatively low weight, the low resilience and the favourable sailing characteristics mean a main engine suffices with a capacity of 4,000 kW and a Renk gear reduction box on an adjustable Wärtsilä screw in a nozzle. At a speed of 14 knots, the fuel consumption is 16 t IFO 380cSt every 24 hours, 20 to 30% lower than that of comparable vessel types. The Wärtsilä bow thruster has a capacity of 450 kW at 1,480 min⁻¹. Bureau Veritas therefore granted the Momentum Scan with the Clean Ship Notation. This notation is given to ships equipped with the newest equipment and controls, via which one can check, limit and perhaps prevent the emission of polluting substances in the sea. The ships are furthermore equipped with a waste management system and a purification installation for sewage water. An approved type of anti-fouling paint,

which is TBT-free (toxic chemicals), has been used for the underwater vessel. The Momentum Scan also meets the requirements of the Ballast Water Management Convention, even before this agreement was even introduced.

Unique Ship

A 10,000 tonner usually has two holds, and at first the class agency also wanted this for the new vessel too. The shipyard spent a lot of time creating a design that still met all of the class requirements with just one single hold. This would demonstrate that a ship with one large hold had enough damaged stability and sufficient constructive strength. Solutions have been found for this aspect that are still within the limits of the regulations. A wide ship has been built as to create the necessary additional stability, with additionally wide sections that include the ballast tanks. The strength needed for building without a partition was also created by 'loading' the frames. After six ships of the Sole 10,000 type had been approved by Lloyd's, the regulations for damaged stability became stricter. This meant that after this series, no more vessels of this type with an additional hold could be built. The Momentum Scan has been constructed in accordance to the Lloyd's Register 100 A1 class and the vessel meets the demands for passing through the St. Lawrence Seaway.

i. www.canadafeederlines.com

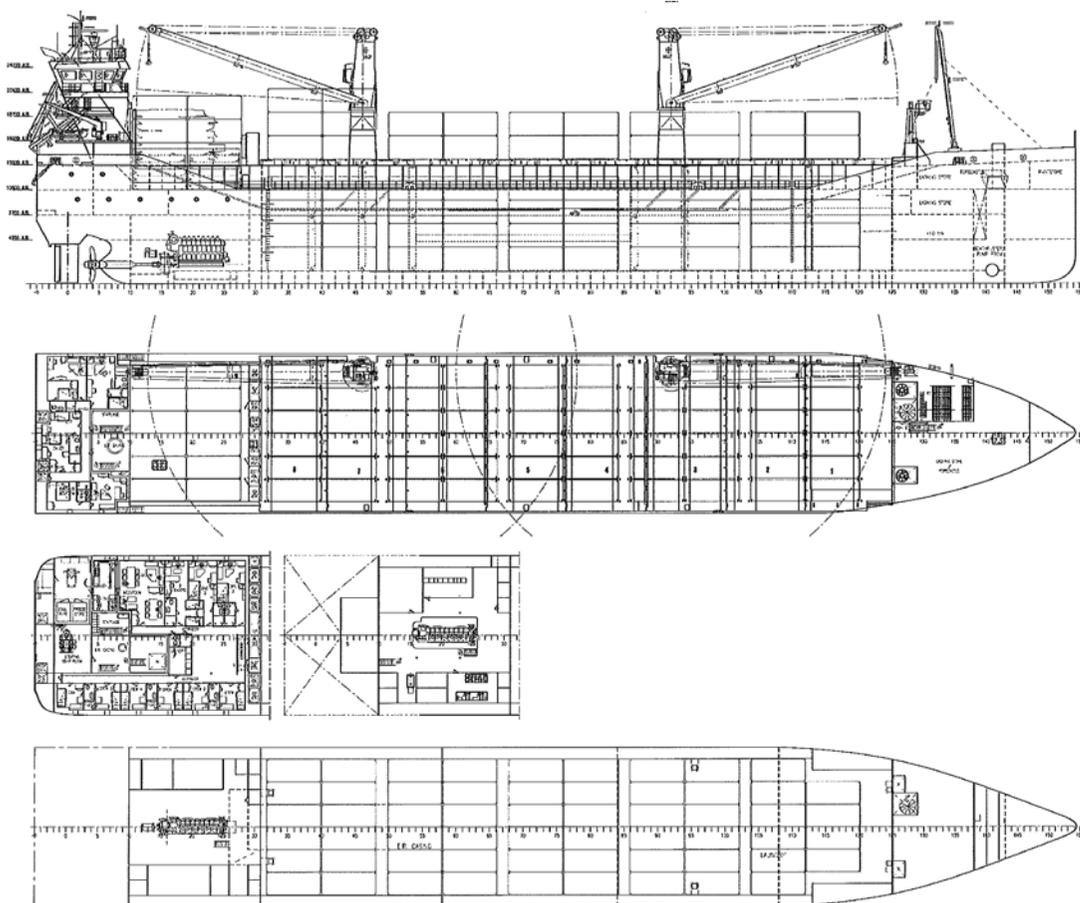


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Facts & Figures

Principal Particulars

Length o.a.	116.26 m
Length b.p.	112.76 m
Beam mid.	17.80 m
Depth	10.50 m
Draught (summer)	7.80 m
Deadweight (summer)	10,000 t
Gross tonnage	6.693 GT
Net tonnage	3.441 NT
Speed	14 knots

Power & Propulsion

Main Propulsion	1x 4,000 kW MaK 8M32C, 600 min ⁻¹
Fuel consumption	16 t IFO 380cst (95% MCR) per day
Auxiliary generator sets	2 x 366kW Scania/Stamford, 1,500 min ⁻¹
Shaft generator	650 kW, 230/400 V

Tank Capacities

Water ballast	3,898 m ³
Drinkwater	95.6 m ³
Fuel oil	568 m ³
Gas oil	69.4 m ³

Hold

Height	11.79 m
Length	70.50 m
Breadth	15.20 m
Capacity	12,358 m ³ (438,550 ft ³)
Load tanktop	18 t/m ² max.
Deck hatches	70.90 x 17.30 m
Load	2.6 t/m ² max.
Tweendeck hatches	70.48 x 15.20 m
Load	3.5 t/m ² max.
Hold ventilation	20x per hour
Grain bulkhead	3x, 6 positions

Container Capacity

Hold	232 TEU
Hatches	194 TEU
Total	426 TEU

Deck Cranes

2x 40 ton SWL at 2.5 - 24 m
2 x 55 t SWL at 3 - 20 m
2 x 80 t SWL at 3 - 14 m

Main Suppliers & Subcontractors

Alfa Laval Heat exchangers | AMW-Marine Renk reduction gearbox, Leistriz spare lube oil pump gearbox, propeller, seals, bearings, pitch control unit, remote control system | Bendit Isolatietechniek Exhaust insulation for the main engine, auxiliary engine, emergency harbour generator | Breman Shipping Installation Sanitary system, hot/cold water circulation, airconditioning and ventilation | Caldic Techniek Stamford generators | C-Nautical Anchor winches | Coops & Nieborg Cargo hatches | Corrosion & Water Control Impressed current cathodic protection system ship's hull | Datema Delfzijl Nautical chart/safety and medical equipment, life rafts ship's equipment (stays, ropes, hold ladders) | Desmi K & R Pompen Ballast pump | El-Tec Electrical installation, navigation lanterns | GEA Westfalia Separator Nederland Fuel and lube oil separators | Heatmaster Boiler | Helder & May Accommodation floors | Hempel Painting system | IHC Metalix Steel building kit | Intersona Adviesbureau Noise and vibration analysis and measurements | Lloyds Register EMEA Classification | MaK Nederland Main engine | Materiaal Metingen Europe ICAF | Mx Brandbeveiliging CO₂ extinguishing system, ER/hold, hold smoke detection system | NMF Cranes | Promac Promac-Hatecke freefall lifeboat, rescue boat | Radio Holland Netherlands Navigation and communication systems | Rossmark Waterbehandeling RW0 bilge water separator | SARC Computer and stability program | Van der Velden Marine Systems, Steering gear | Veth Propulsion Scania/Stamford generator sets | Wärsilä Netherlands Propeller, CPP bow thruster | Wijk Werkendam, van Foremast | Wortelboer Anchors and chains | Wouter Witzel Eurovalve Position monitoring switch