

News Magazine

A publication from Dockstavarvet • 2012



Focus on Patrol Boats and Pilot Boats for the future

The successful delivery of seven Pilot Boats for the Norwegian Coastal Administration (Kystverket) in 2006-2010 was followed by six ALUPILOT 17 M units for Kielpilots in Germany. All six were commissioned during January to December 2011 and you can read more about this project further on in this publication.

Based on the proven AP 17 M we have now created a new 20 meter Pilot Boat design. The first of class will be delivered to Lotsbetrieb GmbH for service at the new deep-water container terminal of JadeWeserPort in December 2012. Like the boats for Kiel the ALUPILOT 20 M will be self-rightening and will meet very demanding requirements regarding sea-keeping and manoeuvring characteristics.

The main-stay of our present product portfolio is the Patrol Boat IC 16 M, a compact and very potent craft with a sprint speed of over 50 knots. Most of our IC 16 M deliveries are fitted with bow ramp and strengthening for landing operations. Repeat customers include Russian Police and the Mexican Navy. Read more about the operational success of the

IC 16 M with the Mexican Navy in this publication. With deliveries during 2012 a total number of 40 units will be in service on three continents.

The COMBATBOAT 90 H prototypes were delivered back in 1989 and a total of over 200 units are in operation with the navies of Sweden, Norway, Mexico and Malaysia. The CB 90 has also developed into a versatile "workhorse at sea". In this publication you can read about the CB 90 Ambulance and the CB Wind Farm Service Boat. The License-production of the CB 90 for the US Navy continues at our partner Safe Boats in USA.

The future will be full of challenges but our focus will remain on the continued development of Patrol Boats and Pilot Boats based on long standing experience with full in-house capabilities from first sketch to life-cycle support. Read more about these projects in the following pages.

We hope you will enjoy our publication.
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Text: Alexandra Jardine Wall

CB90 and IC 16 M in Mexico

The key to adapting to

In the early 2000s, 90% of cocaine deliveries coming from South America to the United States transited Mexico via its Pacific (69%) and Caribbean (21%) coasts. After 2005, the shipments made through Mexico by sea diminished dramatically, according to a report by the United States Department of Defense. This success, due to the increased involvement of the Mexican Navy in anti-trafficking efforts, was in large part enabled by the Navy's fleet of CB90s and IC 16s.

"The CB90 and IC 16 interceptors unite our anti-trafficking strategy," Captain Carlos Aceves Jimenez, National Director of Surface Operations, says. "To be able to detain someone at sea, the most fundamental element is speed, which is what the interceptor gives us."

The first CB90s were deployed in Mexico in 2000. According to Admiral José Antonio Sierra, general director of the Navy's shipbuilding program, the presence of the CB90 has caused traffickers to change tactics, forcing them to navigate farther from the coast or to bypass Mexican waters entirely.

Captain Francisco Arías Moral, commander of one of four CB90s at the Navy's base in Tamaulipas, recounts one early success with the interceptor achieved during an afternoon patrol in the summer of 2002. A small craft refused the approach of Arías' CB90 for a routine check of its fishing permits, giving high-speed chase. "The suspects didn't have much time to give chase at sea. The velocity of our CB90 caught them by surprise," describes Arías. Instead of risking imminent capture at sea, the traffickers disembarked on an abandoned beach attempting escape on foot. By this time, the three other CB90s from base had arrived with infantry

marines. "The design of the interceptors helped us a lot in this case because we were able to approach in very shallow water and our infantry marines quickly disembarked via the bow ramp." The pursuit resulted in the capture of the two suspects, their vessel and 800 kilograms of marijuana.

"Many times we are up against 'go-fast' boats, which with their light hulls and up to four outboard motors of 250 horse power each, are designed for an extremely fast escape," Arías comments. "Before the CB90s, the Mexican Navy did not have a boat that came close to the velocity of a 'go-fast'. But the CB90's capacity to reach 45 or 50 knots, and from that top speed to make a full stop within 15 meters – this gave us tremendous operational advantage."

Aside from the speed, shallow draft and easy handling of the interceptor, Arías notes the reliability of the craft. "In my three continuous years of near daily operation of the CB90, there was only one occasion when the boat had to have non-routine maintenance or repairs." Aceves, who coordinates all naval operations and the national distribution of the Navy's fleet of ships and watercraft, notes that at any given time 80% of Mexico's CB90s are operational.

Today, the CB90 and IC 16 are less likely to be used in a patrol operation such as the one which gave rise to the capture by Arías in 2002. Instead, according to Aceves, the interceptors are an essential operational element in the strategy used to detain traffickers. This strategy involves the coordination of an ocean patrol ship, a helicopter or airplane which gathers intelligence, and a CB90 or IC 16 which intercepts a target. "Without the speed and maneuverability of the CB90 and IC 16, we would not be able to fulfill our law enforcement mission," says



The Map shows the Suspect Maritime Activity around Mexico's Coastal Areas in 2010.

One of forty-eight CB90's delivered to Mexico in 1999-2005 in service.

a changing battlefield

Aceves. The technical and operational qualities that have made the CB90 essential to anti-trafficking efforts have also made it crucial to the Mexican Navy's other national security tasks, such as safeguarding national oil platforms in the state of Campeche. These platforms account for more than 70% of oil production in Mexico, representing around 20% of annual fiscal income. CB 90s and IC 16s are also used to control illegal fishing and in rescue missions. According to Aceves, the CB90s are deployed about 20% of the time in emergency rescue operations.

The Mexican Navy currently has 59 Dockstavarvet interceptors in operation along both the Pacific and Caribbean coasts. This makes Mexico the country with the second largest fleet of CB90s and IC 16s after Dockstavarvet's native Sweden.

Today, the Navy is manufacturing under license five more IC 16s at its shipyard in Veracruz, with construction kits and technical supervision provided by Dockstavarvet. The cooperation with Dockstavarvet included training Mexican naval engineers in CB90 and IC16 construction and maintenance. "We have arrived at a good understanding and responsible cooperation with Dockstavarvet," adds Admiral Sierra, general director of the shipbuilding program.

The Mexican license production program was the first such arrangement Dockstavarvet made with a foreign navy, and it will serve as a model in other key markets and growing economies. The benefits for Mexico have included technology transfer and job creation. "Each interceptor generates direct employment for 50 civilian and military workers during the five months of its construction," says Sierra. "For us, the cooperation with Dockstavarvet offers an opportunity to maintain our people employed and trained

in skilled manufacture. The program also generates employment in auxiliary industries, such as soldering and the provision of raw materials."

The collaboration between Dockstavarvet and the Mexican Navy has been facilitated by on-sight technical assistance and the reduced time it takes to deliver spare parts. Dockstavarvet produces and sends regular newsletters to the Navy through its subsidiary in the region, Dockstavarvet Mexico SA de CV, in order to help improve maintenance practices.

“ The CB90's capacity to reach 45 or 50 knots, and from that top speed to make a full stop within 15 meters – this gave us tremendous operational advantage.

The innovation and operational success that has come from the collaboration with Dockstavarvet has allowed the Mexican Navy to stay one step ahead of drug cartels on the battlefield and in maritime technology. Dockstavarvet, too, has advanced thanks to the cooperation, growing its presence in the world market and finding yet another opportunity to adapt its versatile and dependable CB90 and IC16 models to specific client needs.

In the fight against drug cartels, flexibility and swift logistical adaptation is key. What innovation or new models will Dockstavarvet come up with next to ensure continued success in the ever-changing struggle along the Mexican coastline?

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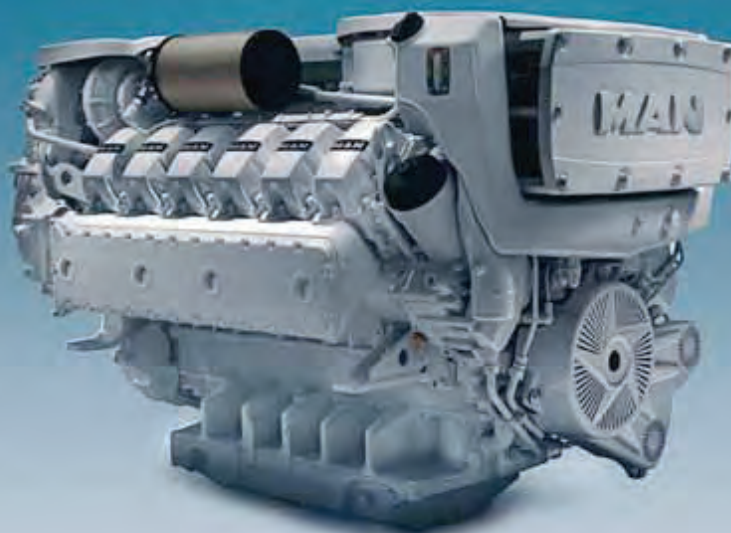
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Text: Mikael Bergkvist Pictures: Per Ågren

Dockstavarvet swims against the stream

Successful production with u

When a new boat leaves Dockstavarvet it is a totally finished product – ready to be put into service by the user. Its manufacture is the result of a range of unique in-house skills and solid experience in boatbuilding.

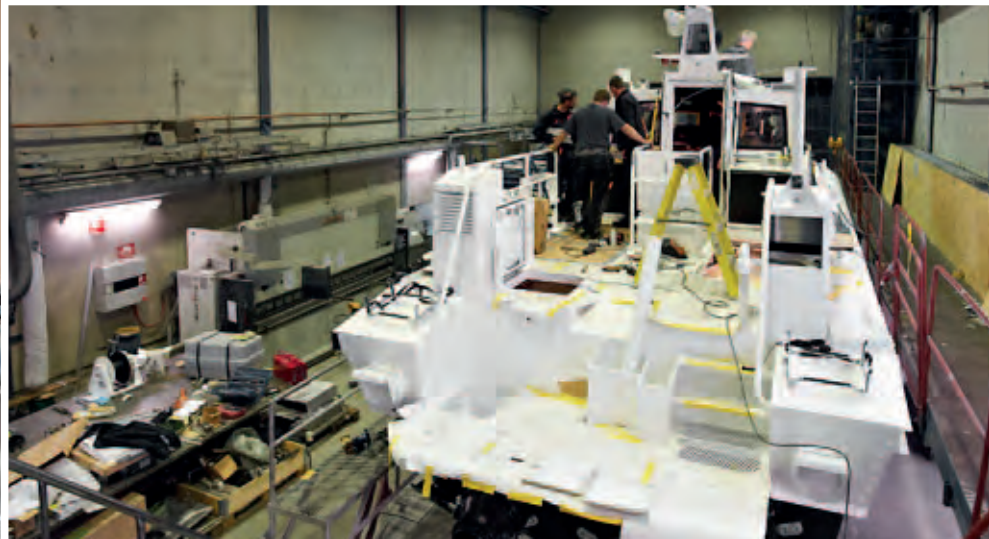
During the winter of 2011 the first pilot boats were delivered to the German Maritime Administration in Kiel on their own keel. Before taking the helm, the new skipper on each boat also received a basic training course covering the boat's various functions.

– Dockstavarvet has a long history in boatbuilding, and we have been producing aluminium hulls since the middle of the 1960's. Building a boat requires a good deal of proficiency and experience in order to

allow us to deliver the quality and characteristics demanded by the customer. And the fact that we are involved throughout the process – from formulation of the original concept to delivery of the finished product, inclusive of training – is much appreciated by our customers, and contributes towards a better end result, points out Per Öberg, Production Manager at Dockstavarvet.

Unique in-house competence

He himself has been active in the boat industry over a period of 30 years and has been involved with everything from practical boatbuilding to design and product development.



unique in-house competence

– A highly important contributing factor to Dockstavarvet's success is our production side. Generally speaking, we do everything ourselves and over the years we have built up a range of unique skills within the company. This means that we are intimately involved with our products the whole time, and this in turn results in short lead times and enormous flexibility in production.

At a time when most manufacturers of boats for commercial purposes have had to wind down production, Dockstavarvet is managing to swim against the stream. In connection with an order from the Swedish Naval Forces at the end of the 1980's, which resulted in a total of 147 boats of the CB 90

combat boat type being built, the shipyard developed new working models for series production so that the promised deliveries could be completed.

– To begin with, there were still quite a lot of people who were sceptical about our ability to see this task through, says Dockstavarvet's MD Torbjörn Larsson.

Network of Sub-suppliers

However, this supply project in co-operation with the Swedish Naval Forces went entirely according to plan, and as many as 24 boats were built and delivered during one year.

– Building the Combat Boat 90 placed unprece-

Continues >>



dented demands on us, and in order to manage the whole process we were among other things obliged to develop our own certification system, explains Torbjörn Larsson.

The systems and working models which were developed 20 or more years ago are still just as important now, and continue to be used with certain updates and modifications for new projects. Close and extensive co-operation with local sub-suppliers for those components which Dockstavarvet cannot itself produce, for example rust-free components, has also contributed to its success.

– By largely using the same network of sub-suppliers, such as Hägglunds in Örnköldsvik – which is part of the international defence industry group BAE Systems – we are assured of both an excellent security of supply and the best quality for these products and components, says Per Öberg.

Product development

Now, this shipyard on Dockstafjärden with its long tradition of boatbuilding, has directed its primary

output towards two types of boat: on the one hand, fast patrol and combat boats of the IC16 series, and on the other hand, seaworthy and more traditional pilot boats.

– Regardless of which type of boat is involved, we provide continuous product development. Our latest models in the IC16 series have a top speed of over 50 knots and are often used in very demanding waters. In these situations it is of the utmost importance that the hull is of the right thickness and rigidity. And the development of new and effective hulls for our pilot boats is also in full swing.

Dockstavarvet currently has a work force of around 50 persons, including everything from welders with special competence in aluminium welding and our own ship's electricians to experienced designers and draughtsmen.

– Thanks to our flexible organisation and our in-house competence, we can quickly switch over to different types of production, depending on our customers' wishes and requirements, stresses Torbjörn Larsson.



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Combat Boat CB 90 H - In the past and for the future



The Combat Boat 90 H is a 15 meter all aluminum fast assault craft, heavily reinforced for forceful landing on unprepared beaches. It's capable of transporting 20 soldiers and cargo at more than 40 knots. With water-jet propulsion key characteristics are shallow draft and excellent maneuverability.

Continues >>



Interceptora 101, the first of forty-eight CB90's delivered to Mexico in 1999-2005, during sea trails in Docksta.

Prototype and serial construction

The prototype contract required DOCKSTAVARVET to do all the strength calculations and dimensioning as well as all engineering and construction drawings on the basis of the FMV (Swedish Defence Material Administration) project design and in close co-operation with a joint user/buyer project group. The first trails with CB 801, only 10 months after contract award, in September 1989, were an immediate success. "FMV had high demands on us but we succeeded with the boat and fulfilled all requirements with broad margins", said Per Öberg, Project Manager at that time. The system test period was cut from twelve to six months and Batch 1 (twelve boats) serial production started in September 1990.

For Batch 2 DOCKSTAVARVET, as lead yard, teamed up with Swede Ship Marine as a cooperating partner for the construction of all boats with even numbers and delivered a total of 147 units, operating as Strb 801 - 947. Deliveries were completed in October 2003. The boats are deployed with the

Amphibious Corps, RSwN.

In addition DOCKSTAVARVET have also exported over 80 units to foreign Police, Coast Guard and Naval Forces. The export versions of the CB 90 H are today in operation in Greece, Norway, Malaysia, Mexico and the USA.

Mature and proven design

The basic design is now 20 years old but has been developed and refined to a truly mature product. Propulsion efficiency has been increased and with new

engine models contract speeds of + 45 knots can be offered in certain configurations. Component selection and detailed engineering is based on feedback from many hundred of thousands of hours of

operation in the most demanding conditions from Svalbard in the north to Borneo in the southeast. "After many years of successful marketing we are now seeing copy-cats coming on the market", says Torbjörn Larsson, Managing Director of DOCKSTAVARVET, "but we are convinced that they have a long way to go to reach our level in terms of operabi-

“ Our civilian and military concepts are based on a few well-planned designs incorporating the best of our knowledge and experience. ”



One of two CB90's modified for davit handling on LPD-ship.



Sea trails of a CB90 on the Amazon River in 2004.

lity, serviceability and low life-cycle costs. We do not only deliver a boat but a whole complete system with documentation, training, tools, spare parts and service developed in co-operation with demanding customers”.

Military applications

The CB 90 H as a weapons platform Basically being a fast troop carrier / attack craft the CB 90 H has been fitted with a number of different weapon suits including 7.62 / 12.7 mm Machine Guns and 40 mm Grenade Launchers. The Swedish version is also fitted with rails to carry and launch 3 tons of seamines.

In the summer and fall of 2010 CB90 H No. 867 was used by SAAB Defence for field testing of their TRACKFIRE Remote Weapon Station. The installation was done by RINDÖ MARINE, a company in the DOCKSTA GROUPE. SAAB could then make live tests and verify that their system is highly suitable for an agile craft of this size.

The ability to strike can also be combined with protection systems. The last 27 units of the boats for the Swedish Amphibious Corps are all fitted with Armor Protection covering the wheelhouse, transport room as well as the engine room. Further development of protection methods and levels are under way.

CB 90 H for transportation on foreign Support Ships

Future challenges at sea and in coastal areas, including disaster relief, threats from pirates and terrorists, requires cooperation between countries. A number of navies want to be able to operate in coastal areas and they need to supplement their standard landing craft with some kind of fast personnel- and materialtransport. There is also a requirement for the fast boats to be easily handled on board a larger vessel to be moved over the long distances associated with international operations.

“In 2010 we got a request from FMV, for the rebuilding of two CB90 to suite deployment on foreign Support Ships for international assignments”, said Per Öberg, Production Manager at DOCKSTA-VARVET. In a few months the boats were rebuilt and approved by our customer and the end-users.

The CB90s has now been tested in the Netherlands and in the UK for a period of over one year.

“The trials aim to verify that the boats can be

winched and stowed on board the larger ships,” said Kristoffer Gattberg, Project Manager at FMV. “Meanwhile, the two countries also have the opportunity to take a close look at all the operational features the Swedish Combat Boats”.

Civilian applications

With 147 units in the Swedish military inventory a number of boats have also been leased / lent to civilian authorities and configured for SAR, Fire Fighting, Police and other civilian applications. The CB90 as an ambulance

The archipelago outside Gothenburg is densely populated and is served by a sea ambulance service operated by a private company on behalf of the community. They needed a fast craft which had the same facilities as the most modern road ambulance. A modified CB 90 HEX was delivered from DOCKSTA in 2007 and is providing a very essential service to the area. The boat was named “HJÄRT-RUD” and appears in episodes of the reality TV-show “SOS - Väst kust“ where you can see the how the CB90 is handling transport and treatment of injured people in remote areas in the archipelago.



Wind Farm Service

The fast growing wind farm service sector has also discovered the versatility of the CB 90 H design. In 2010 a modified CB 90 N was delivered to a company servicing off-shore wind farms in the Southern Baltic. They needed a fast boat and were very attracted by the shallow draft of only one meter.

The export successes of recent years, with all types being based on existing basic models, show that customization of an existing model is a winning concept both quality wise and from an economic point of view. Our civilian and military concepts are based on a few well-planned designs incorporating the best of our knowledge and experience.

Six ALUPILOT 17 M for Germany

The christening ceremony is a very important step in the progress of a new ship project. On the 10th of August 2011 the flags of Germany and Sweden were flying on the "Tonnenhof" in the Port of Kiel, the base for the German Waterways Administration fleet in Kiel. On this day the first four of six new pilot boats for the 170 pilots of the Lotsenbruderschaft NOK II Kiel / Lübeck / Flensburg were christened during a ceremony hosted jointly by the builder, DOCKSTAVARVET and the buyer, Wasser- und Schifffahrtsdirektion (WSD) Nord.

Continues >>





P.V.LABOE, P.V.HOLTENAU, P.V.TRAVEMÜNDE
and P.V SCHILKSEE in Kiel 2011-08-10 waiting
for christening.



Chairman of the board K-A Sundin says a few words before christening.



Capitän Struck, head of Lotsbetriebsverein aussenstelle Kiel, helps the godmother with the christening.



The 100 + guests were welcomed by Dr.-Ing. Hans Heinrich Witte, President of WSD, and in subsequent speeches by Captain Hans-Herman Luckert, Head of Bundeslotsenkammer, Captain Stefan Borowski, Chief Pilot of NOK II, and Peter Bielke, Head of Fachstelle Maschinenwesen Nord. All underlined the smooth co-operation which had been developed between user, buyer and supplier in the process of creating a new class of “state-of-the-art” pilot boats for one of the busiest shipping lanes in the world.

The European call for tenders was published in June 2009 and called for the delivery of six boats before the end of 2011. Docksta’s Chairman, Herr K-A Sundin, stressed in his speech that it had barely been possible to cope with the demanding task of designing, building and delivering the boats within the specified time frame without an existing project already in production. “We were in the fortunate position of being able to base our tender on our ongoing new build program for the Norwegian Pilot Service. All our calculations could be verified by full scale data and the production system was geared up. We have now delivered the first four boats on time and the remaining two will be here according to schedule”.

The first four boats from Docksta were then named “LABOE”, “HOLTENAU”, “TRAVEMUNDE” and “SCHILKSEE” by Laboe Lord Mayor Fru Karin Nickenig, Kiel’s City President Frau Cathy Kietzer, Lübeck’s City President Frau Gabriele Schopenhauer and the Secretary of the Schleswig-Holstein Ministry of Traffic, Frau Dr. Cordelia Andreßen, all assisted in the “champagne smashing” by Captain Jürgen Struck, Head of Lotsbetriebsverein (LBV). LBV is a separate organization run by the pilots and handling the technical and operational management of the boats on behalf of the Government.

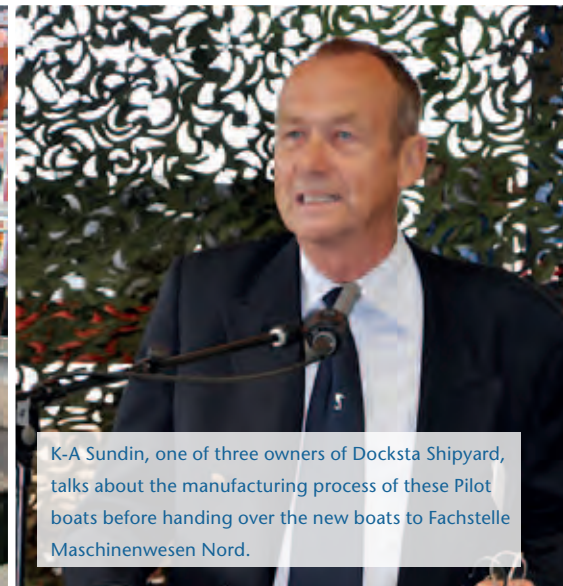
The 16.8 meter long and 5.2 meter wide boats will replace the six boats which were built 30 years ago by Fjellstrand in Norway. These boats have now reached the end of their working life. The costs of repairing and servicing the older boats ceased to be economically sustainable some years ago. The need for the new boats was as great as our expectations. After their first few months in service users felt able to give their first impressions of the Docksta pilot boats. “They are more economical than their predecessors. The fuel consumption is much lower and the cost was a major reason for the decision in favor of the Swedish shipyard”, says Captain Struck. The new boats from



<<< Erste Ältermann Capitän Stefan Borowski of Lotsenbrüderschaft Nord-Ostseekanal II / Kiel / Lübeck / Flensburg greeting guests at the christening ceremony.



P.V.LABOE, P.V.HOLTENAU, P.V.TRAVEMÜNDE and P.V SCHILKSEE in Kiel 2011-08-10



K-A Sundin, one of three owners of Docksta Shipyard, talks about the manufacturing process of these Pilot boats before handing over the new boats to Fachstelle Maschinenwesen Nord.

Docksta are not only more economical, they are also more maneuverable and have a much more comfortable interior with very low noise levels. “The design of the wheelhouse layout is very important and the shipyard in co-operation with my team has created a very efficient workplace for the crew and the pilot next to take the helm”, says Struck.

With a displacement of around 30 tons and a service speed of 20 knots provided by two 500 hp Volvo-Penta engines, the boats are ideal for service in the entrance to the Kiel Fjord and the entrance to the River Trave in Travemünde.

The first-of-class, LVB ”LABOE”, had to leave the shipyard in Docksta hastily on the 12th of December when winter hit early. The boat was sailed 250 NM down to Stockholm and the delivery trials were performed at Docksta’s Stockholm facility in hard winter conditions, but the boat was nonetheless delivered on time in Kiel on the 21st of December. The next three boats were all delivered with spring and summer conditions prevailing in the Gulf of Bothnia and the delivery trip to Kiel was normally performed from a Friday afternoon to the following Sunday night. With the new ”LABOE” there were for a short time four boats in the Kiel Fjord with the

same name. In addition to the predecessor of the new pilot boat there is also a fjord steamer and a Navy mine hunter in the area.


In December 2011 renewal of the fleet of Lotsbetriebsverein, Aussenstelle Kiel was complete, which means that DOCKSTA-VARVET have delivered six new pilot boats of the ALUPI-LOT 17 M class within just 12 months.

“ We are very pleased with the quality and the punctuality has been very satisfying.

”We are very pleased with the quality and the punctuality has been very satisfying” says Stefan Borowski, Elderman of Lotsenbrüderschaft NOK II in Kiel. The new pilot boats are on duty at the pilot-stations in Kiel and Travemünde on the German Baltic coast. “The boats have now been thoroughly tested in the mouth of the River Trave in Travemünde and especially in the harsh conditions at Kiel Lighthouse in the entrance to the Kiel Fjord. The requirements on our side were very high. The new boats have come up to all our expectations very well”, said Borowski.

The 'Hjärtrud' – Marine Ambulance
Ensuring access to medical
treatment in the archipelago





“ When a call-out is given the highest priority we get out to the patient quickly and safely with a top speed of close on 45 knots.

Text: Mikael Bergkvist Pictures: Anders Kämpe

Skipper Thomas Börjesson pulls back the throttle and within a few seconds the log is reading a good 40 knots. At the same time paramedics Johan Thorell and Magdalena Lundberg are preparing themselves... The marine ambulance known as the 'Hjärtrud' is out on a new mission in Gothenburg's Southern Archipelago.

Continues >>



The converted yellow CB 90 combat boat with ambulance stickers has since 2007 been a heavily-patronised and valued feature among the islands and skerries between Öckerö and Vrångö off Gothenburg. Without having to worry about getting caught in tailbacks or other time-wasting traffic situations, the Hjärtrud makes its way swiftly and smoothly between rocks and islets to reach patients on the inhabited islands.

– We always start out from the base on Öckerö and cover the whole southern archipelago within the Sahlgrenska Hospital catchment area. During the October-to-March period we have about eight inhabited islands within our area. In the summer there are a further four or five islands which are inhabited, as the population virtually doubles out here in the archipelago. This means that the number of call-outs increases from on average one per day during the autumn and winter to around 2.5 a day during the summer, says Thomas Börjesson.

A fantastic job

He comes from nearby Fotö and was originally a fisherman. After a brief intervening period as a taxi boat pilot he was taken on as skipper when Koster Marin and Falck Ambulans together launched the present operation with the Hjärtrud during the autumn of 2007 as part of the company Svensk Sjöambulans (Swedish Marine Ambulance) AB.

– It's a fantastic job. Even though I've more or less grown up at sea I never tire of it here, he observes smilingly as he skillfully and confidently steers his way between car ferries and pleasure craft in the heavily-trafficked waters off Hisingen's west coast.

The Hjärtrud is a converted CB 90 HEX combat boat which right from the start was used as a demonstration vessel by Dockstavarvet. Unlike the majority of other boats of the same model, this is powered by two Caterpillar engines each delivering 800 hp, and has a Rolls-Royce Kamewa water jet unit.

– We operate all the year round – except when everything freezes over, when among other things we have a hovercraft at our disposal – and the Hjärtrud performs splendidly in the archipelago environment regardless of wind and weather. When a call-out is given the highest priority we get out to the patient quickly and safely with a top speed of close on 45 knots.

Unbelievable turning circle

Thomas Börjesson draws attention to the boat's outstanding manoeuvrability, which is of great importance when navigating narrow corridors and also when putting in at landing places where access is difficult.

– This is far and away the most versatile boat to manoeuvre that I've ever piloted – and I have a pretty wide experience of different boats. The turning circle is wholly unbelievable, thanks to the jet propulsion. As a result we have a draught of only 0.9 metres, which in its turn means that we can go into quite shallow waters with the Hjärtrud.

Inside the boat, paramedics Johan Thorell and Magdalena Lundberg are preparing themselves for the day's mission. Changing over quickly from a traditional ambulance on the roads to Sweden's only marine ambulance for civilian use means getting used to a somewhat different working environment.

– Aboard the Hjärtrud there are two emergency treatment berths and the same medical equipment that you would find in a normal ambulance. However, working at sea means that a number of different factors have to be taken into account. Among other things, the wind and weather can really mess things up, and what's more it takes longer to get assistance when we're on the boat, explains Johan Thorell.

Always prepared

Besides the medical equipment associated with the two emergency treatment berths on board, the



Hjärtrud has been further specially adapted for its ambulance work. It has a rescue sling for life-saving, a japan stretcher to allow patients to be winched up into a helicopter and extra supplies of electric blankets and oxygen. All loading and unloading of patients now occurs via the converted bow ramp which has been adapted to accommodate a stretcher.

– To start with we used to put in alongside. But that requires 20 metres of free quay berth and can be difficult to come by in the summer months. So now we put in bow first, and can if necessary also lower the bow so that it's possible to wheel a stretcher aboard.

At times of highest priority alert – when often even the helicopter turns out at the same time to provide full cover – the Hjärtrud has to be on its way from the base on Öckerö within 90 seconds. The medical personnel start out from the nearby station on Öckerö and the two skippers who are on call every other week live right alongside the quay.

– So that we're always prepared, we also have a sister boat of the same model, which covers when the Hjärtrud is in for servicing or repairs, says Thomas Börjesson.

Valued service

During his years as skipper he has had positive feedback from both year-round residents and summer visitors to the effect that the ability to respond rapidly and effortlessly with medical treatment in this environment, and at all hours of the day and night, has provided a highly valued and much needed service.

– Apart from our main ambulance activity we are also available for other types of rescue mission, and we also work in tandem with other operators. The Hjärtrud's presence makes it significantly safer to live out here on the islands!



Marine ambulance facts

Svensk Sjöambulans (Swedish Marine Ambulance) AB is owned in equal parts by Falck Ambulans, which is responsible for providing qualified medical services, and Koster Marin, which is responsible for nautical and technical matters.

Converted CB 90 HEX Combat Boat

Length: 16.1 metres

Beam: 3.85 metres

Displacement: approximately 17 tons

Engines and propulsion: 2 x 800 hp Caterpillar engines plus Rolls-Royce Kamewa water jet unit

Top speed: Approximately 45 knots

Medical equipment: Two emergency treatment berths with associated medical equipment

Area of operation: Principally the Gothenburg Southern Archipelago

Powerful Combat Boat 90 H helps Krebs on the job

Rostocker Korrosionsschutz is a specialist in corrosion protection in the maritime field and offshore industry, servicing customers such as offshore wind power plants and oilrigs. The business unit is part of the Krebs Business Group in Germany, an expert in corrosion protection in industrial environments, as well as the aviation and shipping industries.

Rostocker Korrosionsschutz is also a crew contractor, working for customers who need boat services, says Peter Cipra, director of research and development at the company and managing director of Krebs Offshore Shipping.

“Normally we sail every day, seven days a week, 12 hours per day,” he says.

So, naturally, to be the leading offshore corrosion protection expert in Germany, you need a world-class boat. Krebs turned to Dockstavarvet in Sweden and selected the forceful Combat Boat 90 H.

“It is one of the fastest boats on the market,” explains Cipra.

The high-speed boat is mainly used for people transport and for carrying spare parts. It can take 12 passengers plus crew, he says.

The greatest benefit of the CB 90 H is definitely its speed, says Cipra. “It allows for fast access for our crew to offshore installations.”

The boat has been customised with a new fender system, especially built for easy access to the Baltic 1 offshore wind farm, located about 16 kilometres north of the Darss-Zingst Peninsula, Cipra says.

The CB 90 H has two powerful 460 kW Scania DSI 14 diesel engines, driving KaMeWa FF water jets. Cipra often pilots the boat himself.

“For me, the CB 90 H is very good to handle,” he says. “But you need to really practice to maneuver it in small marinas.”

“It’s the best boat of my life,” he says with a smile. “My favourite playtoy.”

The Krebs group was founded in Hamburg by Robert Krebs in 1949. The business was later expanded with the Krebs Industry Service business.

The group grew further with the addition of Robert Krebs KG Rostock corrosion protection in 1990, and the Wismar corrosion protection business, specialised in the maritime field, in 1991.

The latest addition to the business is Krebs Coating Systems, which has set new industry standards for high-quality coatings.

Today, the company has 380 employees working in the areas of corrosion protection in industrial environments and shipping, as well as industrial services and equipment cleaning.



“ The greatest benefit of the CB 90 H is definitely its speed, says Cipra. It allows for fast access for our crew to offshore installations.



Combat Boat 90 H

Length over all	15.90 m
Beam	3.85 m
Displacement	22 tons
Engine power	2 x 625 hp
Speed	40 knots

“

A state-of-the-art pilot boat of 2012 is a sophisticated craft with a number of specialized technical details



Pilot Boats from Docksta, 100 years of development

The very first pilot boat from Docksta was delivered to the local pilots on Ulvön back in 1908. The boat was only some 7 meters long and fitted with a 5 hp engine but nonetheless copper-sheeted for navigation in ice.

During the following 50 years another 20 wooden boats were delivered to the pilots in the northern part of Sweden and the size of the boats slowly

grew to between 10 and 11 meters with engines of up to 100 hp.

During the sixties Dockstavarvet started to do



ULVÖ 1 was delivered in 1926 to Ulvö Pilot station. The very first Pilot Boat from Docksta was delivered to the local pilots on Ulvön back in 1908.



A very important step was taken in 1977 with the introduction of the resiliently mounted wheelhouse.



repair and conversion work on aluminum craft and the first aluminum new build was delivered in 1969.

In 1974 the first aluminum pilot boat was delivered to the Swedish Maritime Administration, a 10.5 meter launch with 200 hp giving a speed of close to 20 knots. Since then another 60 new pilot boats have left Docksta and the size has grown to 17 meters with 1300 hp engines and speeds of up to 30 knots. A very important step was taken in 1977 with the introduction of the resiliently mounted wheelhouse. This feature has since become a standard solution, fulfilling the stringent requirement for an inside noise level below 65 db(A) laid down in many Flag State regulations.

The market has been steadily expanded since 1980 and present users include the National Pilotage Authorities of Sweden, Denmark, Estonia and Norway as well as local

organizations in the UK, Turkey and Germany.

“A state-of-the-art pilot boat in 2012 is a sophisticated craft with a number of specialized technical features” states Docksta’s Chairman K-A Sundin. “Wheelhouse and deck layout, fendering and maneuvering / sea-keeping characteristics are critical areas in pilot boat design. We have the long- standing experience and hands-on knowledge to enable us to design and build first class craft for the most demanding customers. One should also be aware of the fact that many pilot boats are running up to 2000, even 3000 hours per year. Even so, we are proud to see that most of our pilot boat deliveries have outlived the anticipated 20 year lifespan and are still in service after more than 30 years of hard duty. This gives our customers big dividends in terms of low total life cycle costs” concludes Sundin.

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Patrol boats for private purposes

The maritime answer to the SUV

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With the exception of a minor series of sailing boats during the 1960's, Dockstavarvet's output has been exclusively directed towards the production of boats for commercial use and for government clients. Owing to a number of private individuals with very deep pockets who are reckoned to be unique even at sea, this policy has been modified in recent years.

– Building boats for private customers is not Dockstavarvet's niche activity. It complements our regular production and is something we do when there is enough space, time and opportunity in the shipyard, observes MD Torbjörn Larsson.

Tough exterior

But he makes no secret of the fact that it an enormously pleasant and interesting complement – not least when the buyer is very much at home in the boating world and has very clear ideas about vessel design and fitting out.

– Most buyers who turn to us are looking for a boat with a tough exterior combined with luxury fixtures and fittings. Another priority is that the top speed should be a good 50 knots, allowing them to make good headway regardless of wind and weather.

Torbjörn Larsson explains that most vessels which have been built for private buyers are based on Dockstavarvet's 16.5-metre-long patrol boat hull. This is a vessel of proven seaworthiness which is used professionally in the most demanding circumstances. Powered by two twelve-cylinder 1,360 hp diesel engines from the lorry manufacturer MAN and with two Rolls-Royce Kamewa water jet units, it easily does up to 55 knots.

Increased interest

If the boat's exterior projects a somewhat raw, stripped-down and tough exterior, the opposite is true of the interior. Here, hardwood finishes, fretwork and state-of-the-art electronics are high up on the customer wish list.

– Bearing in mind that there are a lot of specialist solutions around when it comes to interior fixtures and fittings, we buy these in from firms which normally work on yacht production. Otherwise we're responsible for the whole production – even electri-



IC 16 M High Speed VIP Craft in the archipelago of Stockholm

The interior in one of two IC 16.5 M VIP delivered in 2009

cal and engine installations.

Having the opportunity as a private individual not only to invest in a luxury civilian vessel from Dockstavarvet but also to pilot it calls for a very fat wallet.

– Despite the economic recession which has swept through large parts of the world, the number of enquiries for these boats has increased markedly during recent years. Not least from customers in the former Eastern European block, says Torbjörn Larsson.

Up till now, Dockstavarvet has delivered a handful of boats for private purposes.

IC 16M High Speed VIP Craft

Length over all	17.30 m
Beam	4.08 m
Displacement	22 tons
Engine power	2 x MAN 2842 LE 416
Waterjets	2 x FF 410 S
Speed	48 knots



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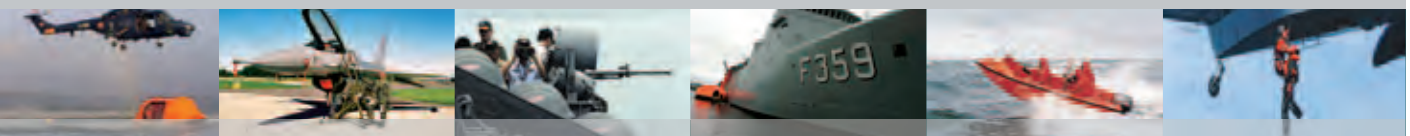


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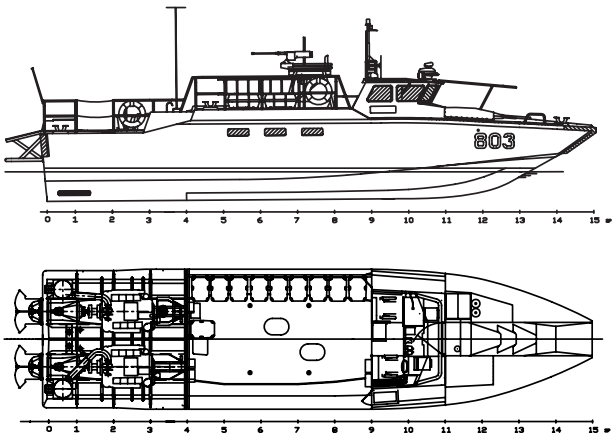
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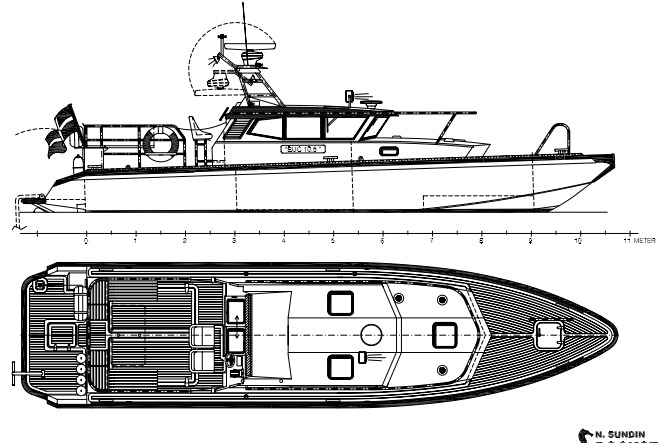


CB 90 H

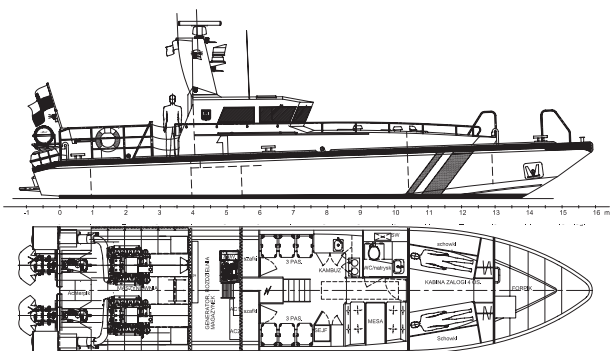
Length over all	14.90 m
Beam	3.85 m
Displacement	18 tons
Engine power	2 x 600 kW (2 x 816 hp)
Speed	45 knots

**IC 11 M**

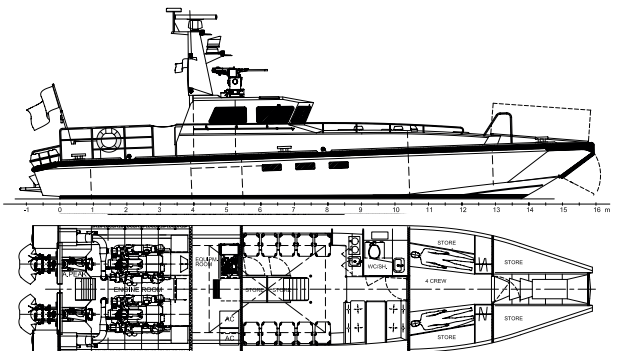
Length over all	11.30 m
Beam	2.94 m
Displacement	8.2 tons
Engine power	2 x 368 kW (2 x 500 hp)
Speed	42 knots

**IC 16 M**

Length over all	15.90 m
Beam	3.96 m
Displacement	20 tons
Engine power	2 x 589 kW (2 x 800 hp)
Speed	42 knots

**IC 16 M R**

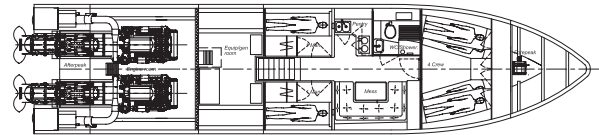
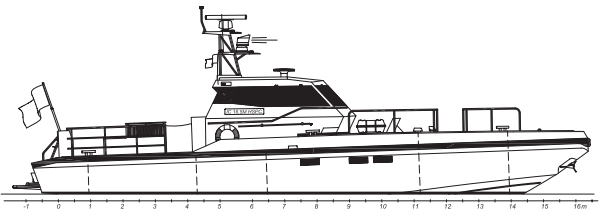
Length over all	15.90 m
Beam	3.95 m
Displacement	20 tons
Engine power	2 x 810 kW (2 x 1100 hp)
Speed	50 knots



IC 16.5 M Coast Guard



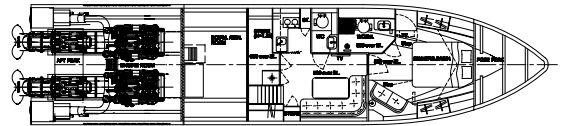
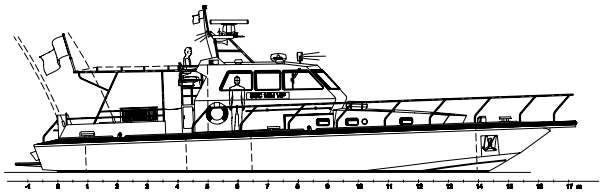
Length over all 17.90 m
 Beam 4.15 m
 Displacement 24 tons
 Engine power 2 x 1000 kW (2 x 1360 hp)
 Speed 55 knots



IC 16.5 M VIP



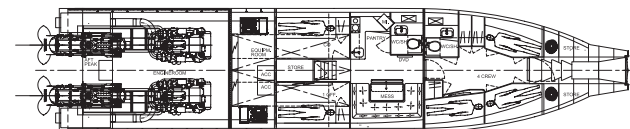
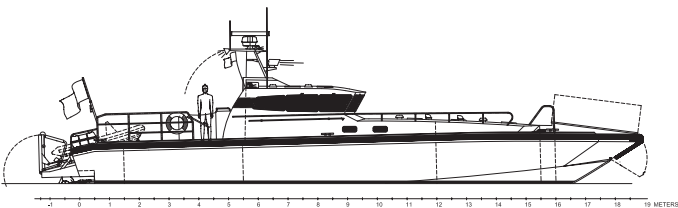
Length over all 18.70 m
 Beam 4.32 m
 Displacement 23 tons
 Engine power 2 x 1000 kW (2 x 1360 hp)
 Speed 55 knots



IC 19 M



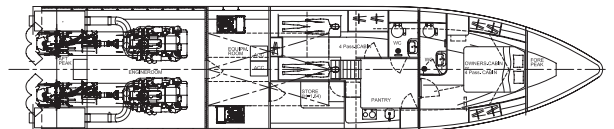
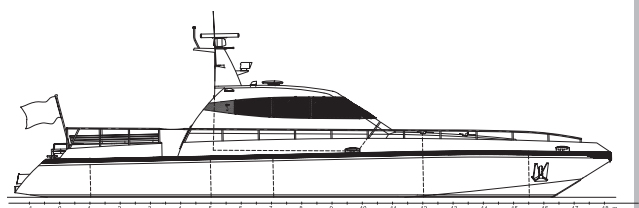
Length over all 20.20 m
 Beam 4.28 m
 Displacement 32 tons
 Engine power 2 x 1100 kW (2 x 1500 hp)
 Speed 50 knots



IC 19 M Patrol Craft



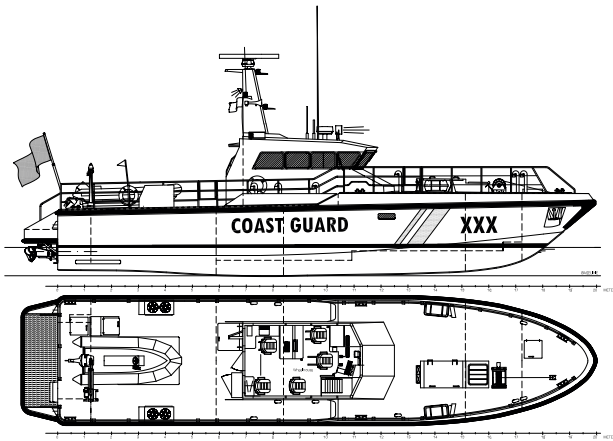
Length over all 20.20 m
 Beam 4.28 m
 Displacement 32 tons
 Engine power 2 x 1100 kW (2 x 1500 hp)
 Speed 47 knots



CG 20 M



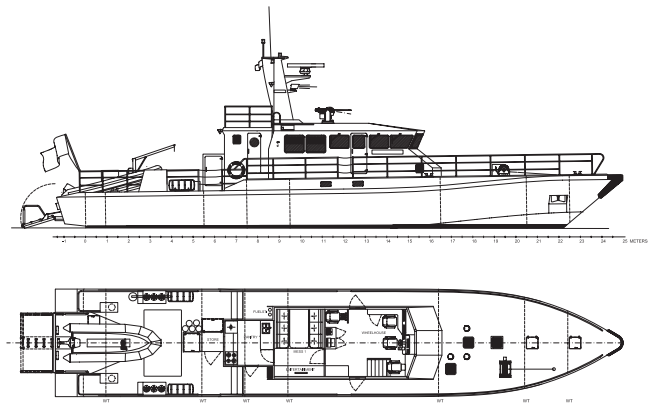
Length over all	20.19 m
Beam	4.65 m
Displacement	35 tons
Engine power	2 x 374.5 kW (2 x 510 hp)
Speed	20 knots



CG 25 M

NEW PROJECT

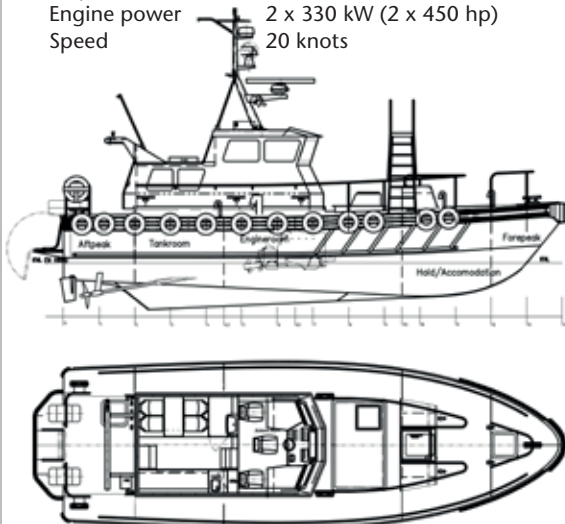
Length over all	26.30 m
Beam	5.00 m
Displacement	55 tons
Engine Power	1 x 360 kW (490 hp) + 2 x 808 kW (2 x 1100 hp)
Speed	10 / 25 knots



AP 14 M



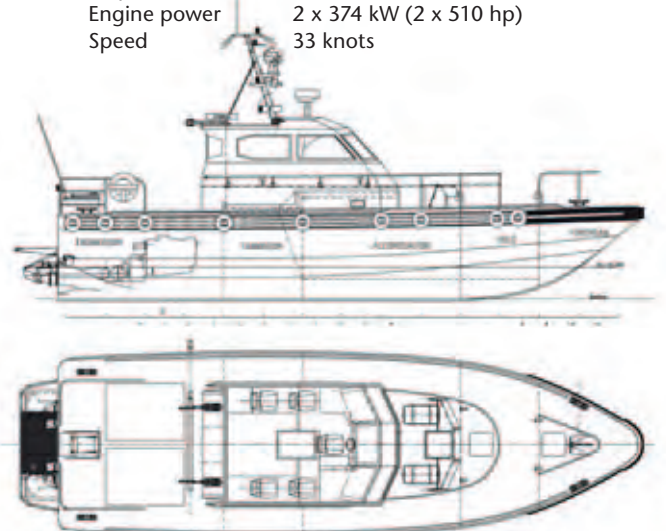
Length over all	13.90 m
Beam	4.60 m
Displacement	20 tons
Engine power	2 x 330 kW (2 x 450 hp)
Speed	20 knots



AP 14700 WJ



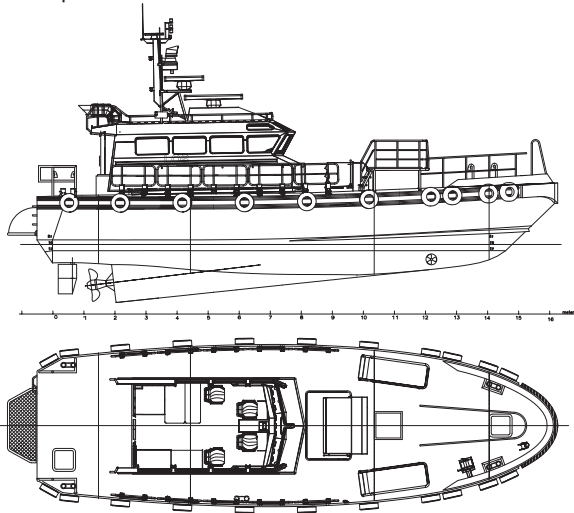
Length over all	14.70 m
Beam	4.65 m
Displacement	20 tons
Engine power	2 x 374 kW (2 x 510 hp)
Speed	33 knots



AP 16.5 M



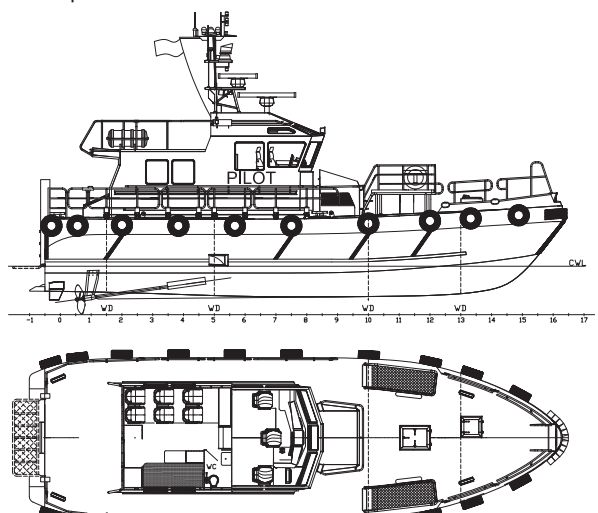
Length over all 16.70 m
 Beam 5.10 m
 Displacement 25 tons
 Engine power 806 kW (1100 hp)
 Speed 22 knots



AP 17 M



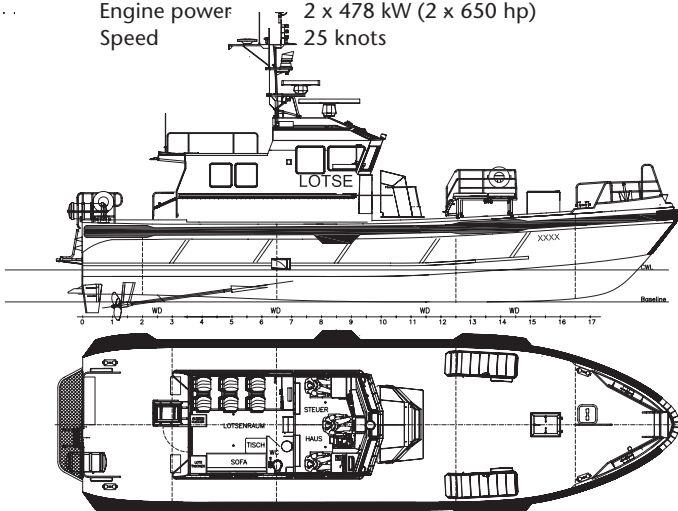
Length over all 16.80 m
 Beam 5.20 m
 Displacement 28 tons
 Engine power 2 x 478 kW (2 x 650 hp)
 Speed 25 knots



AP 20 M

NEW PROJECT

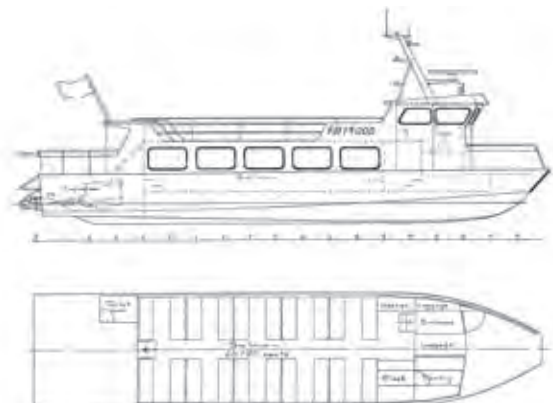
Length over all 19.80 m
 Beam 5.45 m
 Displacement 31 tons
 Engine power 2 x 478 kW (2 x 650 hp)
 Speed 25 knots



AB 19000



Length over all 19.20 m
 Beam 4.80 m
 Displacement 31 tons
 Engine power 2 x 450 kW (2 x 612 hp)
 Speed 24 knots





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