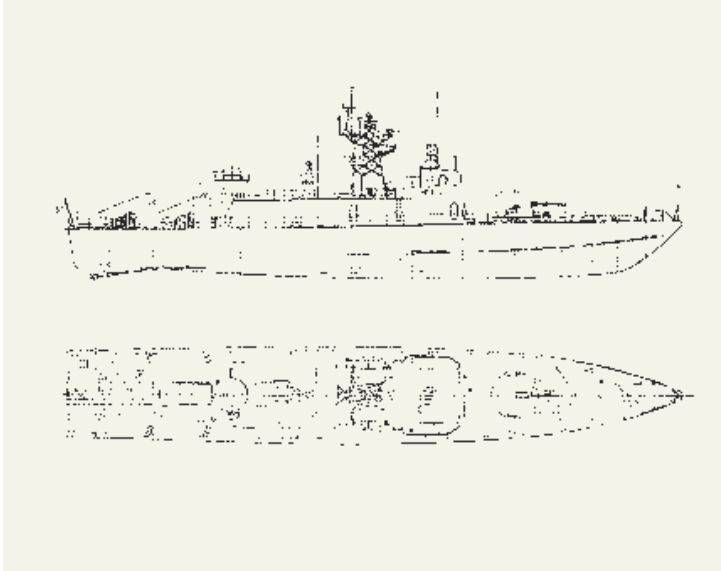


Fast Missile Corvette

Builder / Yard No.: Shipyard **KRALJEVICA** / 484, 500
 Name / Class: **KRALJ PETAR KREŠIMIR IV, DMITAR ZVONIMIR**
 Fast Missile Corvette
 Owner / Flag: Croatian Navy / Croatia
 Delivered: 1992, 2002

Classification: Croatian Register of Shipping



Main characteristics

Length overall:	53.60 m
Length btw perp:	49.76 m
Breadth, max:	8.54 m
Depth, moulded:	4.45 m
Draught, design:	2.00 m
Normal displacement:	350 t
Full displacement:	382 t
Speed continuous:	32.8 kn
Speed, max.:	36.0 kn
Autonomy:	10 days
Endurance, at 18/32 kn:	1,700 n.m./1,000 n.m.
Complement:	5 officers 12 NCO, 16 Ratings
Construction:	Hull - high tensile steel Superstructure - AlMg4,5Mn
Main engines:	3 x M504B - 2 or 3 x MTU 20V 538 TB 93
Electrical power:	3 diesel generators, 110 kVA each produce 3 phase 440V, 60 Hz
Combat system:	4 x 2 Saab RBS-15 SSM, 1 x Bofors 57 mm L70 1 x 30/6 AK630 Gatling

The fast Missile Corvette (FMC) "Kralj Petar Krešimir IV" is designed for autonomous offensive combat operations against sea, land and underwater targets with the possibilities of becoming the commanding ship of a squadron of FACs or of FMCs.

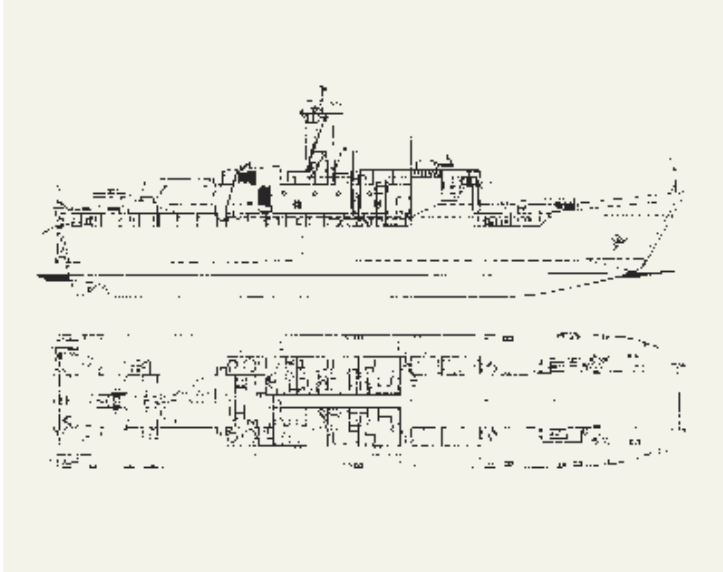
The favourable hull form and sufficient freeboard at bow, are designed and model tested to give the ship excellent sea-keeping properties, enabling her to be run to the limit of sea state 4 WMO, and to be run at reduced engine power up to a sea state 6 WMO.

The hull is divided into 10 watertight compartments (two separate watertight engine rooms) enabling her to float even with two adjacent compartment flooded. The ship is provided with following systems: navigation, communication, radiological detection, secondary NBC protection, air conditioning, fire fighting, automatically degaussing and damage control. Vital equipment on board is shock resistant to underwater blasts, as well as to shocks produced by firing of own armament. By means of resilient mounting of noise/vibrations gene-rating equipment and fitting of acoustic insulation, the obtained acoustic noise and vibrations levels are within very favourable limits. Fixed pitch propellers, shafting and rudders are carefully designed and model tested in order to avoid generation of excessive vibrations.

The mainstay of her Combat System is the Swedish PEAB (Celsius Tech) LV 249 command and weapon control system with the integrated weapon system, adapted it for the control of the Russian AK630 gun. Radar and laser radiation detectors that are part of the Electronic Warfare System are also used as sensors for the "soft kill" anti-ship missile defense, based on the Barricade radar and IR deception system. The RIZ sonar PP10M serves as anti-diversion sensor equipment. Additionally, up to six anti-ship mines can be easily mounted on the aft deck. The ship's CIC is built around three control consoles: horizontal Tactical and Missile, vertical Gun control for air engagement and Surface Gun for search and air back-up duties.

Landing Ship-Minelayer

Builder / Yard No.: **BRODOSPLIT - Naval and Special Vessel Shipyard Ltd. / 574, 575**
 Name: **CETINA, KRKA**
 Owner / Flag: **Croatian Navy / Croatia**
 Delivered: **1993, 1995**



The ship is a closed ferry type with a possibility of loading or off-loading vehicles through fore and aft ramps. The basic purpose of the ship is to transport equipment and armament for the naval infantry and its embarkation and debarkation on roughly prepared sites, and a possibility of laying of defensive mine fields. The ship can be also used for transport of troops and a variety of ordnance items. The ship revolving crane provides for loading and off-loading of lighter cargo.

Main characteristics

Length, overall	49.69 m
Length, on water line	45.03 m
Breadth, max.	10.20 m
Height to main deck	6.40 m
Draught at normal displacement	2.62 m
Speed, continuous max.	
at displacement of 750 t	12.50 knots
Displacement, normal	750 t
Displacement, max. at draught of 3.2 m	1,000 t
Payload	410 t
(4 medium tanks M-47 or 6 T-55 or 7 armoured personnel carriers or 11 guns B-1/76 mm with 9 mortars 82 mm).	

Construction

The hull and the superstructure are made of higher strength shipbuilding steel in welded construction.

Armament

Two twin 30 mm guns AK-230
 One 4-barrel AA gun 20 mm
 Four portable SAM launchers "Stella" (SA-7)

Machinery and electrics

The propulsion system consist of two four-stroke diesel engines with maximum continuous power of 1,240 kW and two controllable pitch propellers (CPP). The basic ship voltage is 3 x 380 V, 50 Hz. Emergency voltage 24 DC. Two generators of 140 kVA each are fitted.

Navigation equipment

The navigation equipment includes sophisticated units which ensure navigation in any meteorological conditions by day and night (gyro-compass, magnetic compass, echo sounder, log, radar, etc.).

Other equipment

Fore and aft ramps are fitted for loading and off-loading. The ramps are controlled hydraulically. One ship revolving crane of up to 15 kN carrying capacity is provided at maximum reach of 8.5 m.

Cruising range and autonomy

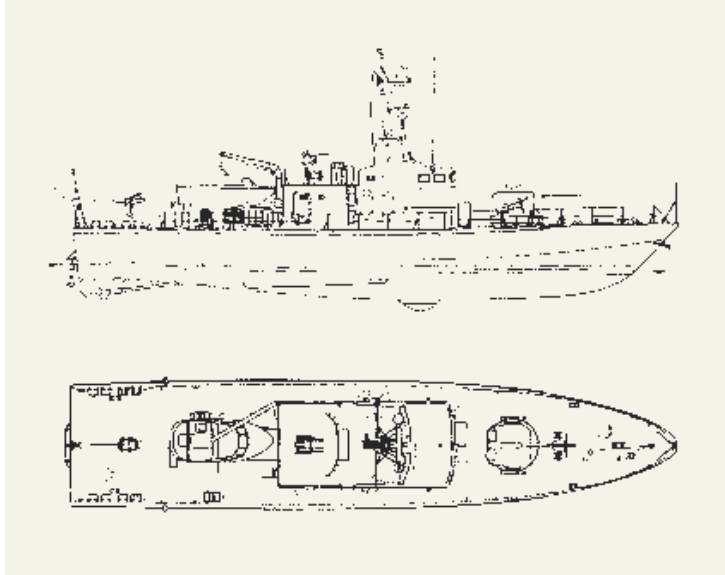
At the speed of 12 knots, the cruising range is 360 nm. Autonomy is 4 days (tanks capacity enables even longer autonomy and cruising range - to 1,200 nm and 10-12 days).

Complement

The ship provides full accomodation for 41 person plus 8 auxiliary berths.

Patrol Boat Type “Šolta”

Builder / Yard No.: Shipyard KRALJEVICA / 424-427, 439-443, 466, 467
 Name / Class: Patrol boat type Šolta
 Owner / Flag: Croatian Navy / Croatia
 Delivered: 1980-1985



Main characteristics

Length over all	32.64 m
Length btw perp.	29.50 m
Breadth max.	6.75 m
Depth moulded	3.50 m
Draught, design	1.70 m
Full displacement	134 t
Speed, continuous	28.0 kn
Speed, max.	29.5 kn
Autonomy	5 days
Endurance, at 15 kn	600 n.m.
Complement	3 officers 4 NCO, 12 Ratings
Construction	Hull: high tensile steel Superstructure: AlMg4,5Mn
Main engines	2 x SEMT Pielstick 12 PA 4V 200 VGDS or 2 x MTU 16V 396 TB 94
Electrical power	2 x 100 kVA
Combat system	1 x Bofors 40 mm L70, 1 x M71 Hispano 20 mm, 2 illumine.launcher 128/2 mm

The Patrol Boat “Šolta” is designed for border patrol service, surface and underwater observations and reporting, direct defense of territorial waters and support of own striking naval forces.

The hull form is of a semi-displacement type, developed and fully researched by model testing and proven in several types of existing naval ships. The form itself performs a good compromise between good seakeeping and low resistance at high speeds. The flat aft part, edged at sides, accounts for a good hydrodynamic lift, while V-shaped fore part improves the ship's response in rough seas, so the ship is able to run at full output of main engines up to sea state 3/4, and at reduced engine power, up to sea state 5 according to WMO scale.

Propellers, shafting and rudders are carefully designed to avoid generating of excessive vibrations. All vibration-generating machinery is properly mounted on resilient mounts, for the vibration levels in living and operational areas are to be in accordance with the ISO 6954 standard.

Propulsion system consists of two identical propulsion plants favorable for application on small high-speed units and special-purpose crafts with controllable pitch propellers. Engine and propulsion plant design corresponds to specific requirements for operating conditions, duty profile and maintenance intervals.

The special sequential turbocharging method allows the propulsion engines to bring up front the optimum of the hull and propeller characteristics, as well as mission profile of modern fast patrol boat, which means operating economy and favorable operational parameters even at low speed.

99 T Midget Submarine

Builder / Yard No.: **BRODOSPLIT - Naval and Special Vessel Shipyard Ltd. / 583**
 Name: **VELEBIT**
 Owner / Flag: Croatian Navy/Croatia
 Design by: Brodarski Institut, Zagreb
 Delivered: 1996



This submarine is capable of carrying out commando-type missions as well as laying of acoustic-induction sea-bottom mines. It is also used for patrol and surveillance missions, clandestine transport of personnel and material, for training of submarines and combat divers. Four single-seat submersibles of R-1 type are accommodated under the light superstructure. Instead of submersibles, four sea-bottom mines can be carried.

Main Characteristics

Length overall	20.92 m
Pressure hull length	15.37 m
Pressure hull breadth	2.70 m
Draught mean	2.40 m
Displacement-surface	88.04 m
Displacement-underwater	98.75 m
Operating diving depth	105 m
Limited submerged depth	120 m
Submerged speed, max.	7.4 knots
Speed, cruising-underwater	4 knots
Speed, cruising-surface	5.9 knots

Construction

The submarine is of single-hull construction. The pressure hull is built of steel and light superstructure of reinforced polyester.

Propulsion system

The submarine is driven by two DC electric motors, 18 kW each. Electric energy is supplied by two groups of storage batteries, 128 links each. The batteries are charged by 105 kW diesel-generator.

Cruising range

In underwater navigation with 7.3 knots, cruising range is 80 NM, and 192 NM with 4 knots. In surface navigation with 5.9 knots, cruising range is 90 NM.

Complement

Depending on tactical mission, crew is composed of 6 persons, or 4 persons plus 6 combat divers.

