The new generation of sailing training ship

BRIGANTINE AQUILA
The concept of brigantine AQUILA class was introduced in order to revive Sail Training Associations from all around the world and assure their good shape in the current economic circumstances.

The AQUILA sailing training ships are going to the sites for fascinating maritime experiences of youth.

Our ships thanks to their traditional square riggs and uniquely designed equipment provide a full range of training possibilities that are completely comparable with much larger vessels.

We are delivering variety of versions of the external design: inspired by an old sailing ship, as well as the modern sailing vessel in the architectural form of a superyacht or the ship Choosing three or two decks variant would provide opcional living, training and sailing space.

The innovative sailing vessel dedicated for people with physical disabilities would meet their needs in 100 per cent.

The ship with 24 m/80 ft hull and 30 m/100 ft LOA is built under the yacht’s classification rules and the CE standards.
THE PROTOTYPE HULL

24 m / 80 ft long composite hull built from the vinylester resin and basalt fibre multiaxial fabrics, corresponds to the strength of the steel hull, surpassing it usable parameters, weight and lifetime
24 m / 80 ft long composite hull built from the vinylester resin and basalt fiber multiaxial fabrics. Some parts made with glass fibre multiaxials
Sandwich core: Divinicell 100 - 20 mm and infusion type honeycomb firet.
Laminating technology:
  Vacuum infusion.
Hull and deck laminated according to the technology patented by us. They were laminated in the course of a single proces, which includes the continuation of deck-side-bottom-side-deck shell, without hull-deck joints.
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length overall (incl. bowsprit)</td>
<td>L_{OA}</td>
<td>29.97 m</td>
</tr>
<tr>
<td>Hull length</td>
<td>L_{H}</td>
<td>23.97 m</td>
</tr>
<tr>
<td>Waterline length (full load)</td>
<td>L_{WL}</td>
<td>22.05 m</td>
</tr>
<tr>
<td>Breadth</td>
<td>B</td>
<td>6.5 m</td>
</tr>
<tr>
<td>Draught (maximum load)</td>
<td>T_{LS}</td>
<td>2.7 m</td>
</tr>
<tr>
<td>Air draft</td>
<td>h</td>
<td>28.20 m</td>
</tr>
<tr>
<td>Displacement (lightship)</td>
<td>D_{LS}</td>
<td>54 t</td>
</tr>
<tr>
<td>Displacement (full load)</td>
<td>D_{FL}</td>
<td>62 t</td>
</tr>
<tr>
<td>Displacement (maximum load)</td>
<td>D_{max}</td>
<td>68 t</td>
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<tr>
<td>Ballast</td>
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<td>19 t</td>
</tr>
<tr>
<td>Main engine</td>
<td></td>
<td>177 kW</td>
</tr>
<tr>
<td>Generator</td>
<td></td>
<td>20 kVA</td>
</tr>
<tr>
<td>Sail area</td>
<td></td>
<td>360 m²</td>
</tr>
<tr>
<td>RCD Category</td>
<td></td>
<td>A</td>
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<tr>
<td><strong>Crew Total - Seagoing trips</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>proffesional crew</td>
<td></td>
<td>30 persons</td>
</tr>
<tr>
<td>guest crew</td>
<td></td>
<td>6 persons</td>
</tr>
<tr>
<td>max. number of wheelchair crew</td>
<td></td>
<td>24 persons</td>
</tr>
<tr>
<td>proffesional crew</td>
<td></td>
<td>12 persons</td>
</tr>
<tr>
<td>guest crew</td>
<td></td>
<td>42 persons</td>
</tr>
<tr>
<td>max. number of wheelchair crew</td>
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<td>6 persons</td>
</tr>
<tr>
<td><strong>Crew Total - Day trips</strong></td>
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<td></td>
</tr>
<tr>
<td>proffesional crew</td>
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<td>37 persons</td>
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<tr>
<td>guest crew</td>
<td></td>
<td>12 persons</td>
</tr>
<tr>
<td>max. number of wheelchair crew</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design:</td>
<td></td>
<td>Krzysztof Maćkowiak NA, Aquila Yachts, Choreń Design &amp; Consulting</td>
</tr>
</tbody>
</table>
The largest European civil milled mould is prepared for a vacuum infusion technology. The innovative construction and mathematical side shapes enables to built huge hulls, up to 130 ft/40 m with nice spherical sides and bottom shape that ensures fast and safe sailing.
AQUILA YACHTS Sp. z o.o. CHOREN DESIGN & CONSULTING

TECHNOLOGY
Left bow part of innovative hull-deck mould Completed mould Vaacuum infusion process

BRIGANTINE AQUILA
AQUILA YACHTS Sp. z o.o.  
CHOREN DESIGN & CONSULTING

TRADITIONAL TRAINING VERSION

BRIGANTINE AQUILA
High-quality, perfect shape, modern hull was built using aircrafts materials and innovative technologies, in order to assure fast, safe, easy and pleasant sailing in any weather. The chined hull has deep forefoot, substantial rocker, relatively long and shallow keel, twin rudders in conjunction with high balast to displacement ratio and all machinery and tanks concentrated above the keel. The ship was designed with the stable and steady movement through the waves, more for steady high average speed during the passage than for extreme speeds achievable for short periods of time in favourable conditions.
TRADITIONAL TRAINING VERSION
AQUILA YACHTS Sp. z o.o.  CHOREN DESIGN & CONSULTING

DESIGNER’S MODERN VERSION

BRIGANTINE AQUILA
BRIGANTINE AQUILA
RESEARCH SHIP VERSION

Sailing scientific research ship of the new generation

The nature of modern research sailing ship clearly distinguishes her from other training or commercial yachts.

The specialistic ship is going to provide comfortable research settings not only for physicists, biologists and other scientists, but also for wrecks seekers and sea movie makers.

Shallow draft of 2.7 m gives access the majority of small harbours and bays.
• All manoeuvring and sails operations from main deck
• Wheelchair accessibility to every corner of the main deck, including bowsprit
• Double sail operating systems - for easy or hard work - depending on crew and conditions
• All sails furled. Mainsail furling in the boom. Square sails furled can be manually operated by trainees on yards
• Easy access to crosstrees
• Convenient access (not for wheelchair) to emergency service of the main sail boom, a rigid-hulled inflatable boat, life rafts and solar panels on the roof of the superstructure
• Sun deck on the aft, sitting height above main deck
• Deck toilet designed for the crew on wheelchairs
• Mess room for 32 people, easy converted for 12 people on the seats and 8 people in wheelchairs
• Deck toilet on main deck suitable for people with disabilities, wheelchair users.
• Elevator for 1 person in a wheelchair and 1 other person
• 2 staircases between decks
• Emergency exit on foredeck
• Wheelchair or folding seat helm post. Possible systems of steering for the blind or deaf guest crew
AQUILA is the world's first sailing training - integrated vessel fully designed to the needs of people with disabilities. Half of the crew (12 persons) may be wheelchair users.
AQUILA is the world's first sailing training - integration vessel fully designed to the needs of people with disabilities. Half of the crew (12 persons) may be people moving in wheelchairs.

BRIGANTINE AQUILA
INTEGRATED VERSION CONCEPT

BRIGANTINE AQUILA
Mess room for 32 people before the reorganization
MAIN DECK – INTEGRATED VERSION

Mess room after the reorganisation for 12 people on fixed seats and 8 people in wheelchairs
BRIGANTINE AQUILA

INTERIOR – SAMPLE OF A TRAINING VERSION
• Large wheelhouse with navigation table for seven people and helm seat with exits to the main deck, upper deck, lower deck and mess room
• Rear long galley with two doors
• Mess room for the whole crew that serves as a dining room and a training space
• Two staircases to the lower deck and the rear exit to the cockpit
Another version of superstructure plan includes:

- Mess room opened to rear windows and the rear door that lead to the cockpit
- Galley and dining/working seats with tables in the middle.
- Opened access to wheelhouse with big navigation table and seats for 7 people + helmsman
• Crew cabins, each with private toilet
• Guest cabins with private or shared toilets
• 2 staircases between decks.
• Place for workshop and storeroom or deck access hold for goods found at sea
• Interior plan can be customize to Owner’s needs
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DESIGN TECHNOLOGY
3D MegaCad / Solid Works / Prolines / Rhinoceros design and KeyShot renders

Gdansk Technical University hydrodynamic channel trials  Tug power diagram

BRIGANTINE AQUILA

speed 11,2 knots
EXPERIENCE

CHOREN DESIGN & CONSULTING
Zygmunt Choreń
The constructor, designer, founder and the manager of office the Choren Design & Consulting from beginning his origin in 1992. He designed and supervised the building 17 great sailing-ships that swim today under banners of Poland, Bulgaria, Russia, Ukraine, Germany, Finland, Japan and Panama. He is yacht captain.

AQUILA YACHTS
Krzysztof Maćkowiak designed and supervised 4 tall ships and many other ships and yachts. He built 20 yachts himself. He is a racing sailor, yacht captain, expert and supervisor of the Polish Yachting Association.

SPV Royal Clipper designed and built by Zygmunt Choreń and Krzysztof Maćkowiak
UNIQUE SOLUTIONS

The yard is capable of providing customers with unique application of the approved layout and the yacht style, both inside and out. A modern hull has been optimized for fast and pleasant sailing in high winds with big waves and rough water of the oceans. All the comfortable solutions and comfort coefficients were implemented in order to make the crew feel good while maintaining the required ship stability and seaworthiness.

The project was recognized by the POLISH AGENCY FOR ENTERPRISE DEVELOPMENT, Polish MINISTRY OF SCIENCE AND HIGHER EDUCATION and THE NATIONAL RESEARCH AND DEVELOPMENT CENTRE. It was awarded with a grant from the EUROPEAN REGIONAL DEVELOPMENT FUND.

AQUILA YACHTS was qualified to participate in the AMERICAN-POLISH UPIH program supported by the NATIONAL CENTRE FOR RESEARCH AND DEVELOPMENT, which is aimed at preparing Polish innovative companies to enter the global market and providing them with a wide network of business contacts in the United States. AQUILA YACHTS was also awarded a certificate that allows it to apply for funds for innovative companies involved in commercializing the results of scientific research global markets.

The President of AQUILA YACHTS board and Chief designer of Brigantine Aquila made a patent application regarding innovative technology of polymodular interior building of large yachts. Furthermore, he is the author of patent for innovative technology of polymer composites watercraft construction. This technology will be used to construct smaller composite watercraft (up to approx. 15 metres in length).
AQUILA YACHTS was founded in 2010 as a special purpose company established in order to (1) develop and implement innovative technologies and materials, (2) set design and technology standards that provide competitive advantage in mass construction of large yachts, and (3) conduct laboratory and prototype tests (with the use of 24-metre long prototype yacht built by AQUILA.

AQUILA YACHTS Sp. z o.o.

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CHOREN DESIGN & CONSULTING for above 15 years offers the highest quality of service in design and consulting of shipbuilding.

The history of Choren Design & Consulting began in 1992 when the company was founded by Zygmunt Choreń. Currently it employs 10 highly skilled designers permanently, some of them were involved with the Design Office of Gdansk Shipyard previously. We cooperate with wide range of specialists depending on temporary needs. We have experience related to building various types of vessels. Our company applies modern technology and increases its turnover year by year.

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