

Over ProZero & Van Dyke Marine

De ProZero-serie van Tuco Marine staat voor toonaangevende kwaliteit en maatwerk in high-performance werkboden en crew transfer vessels. Elke boot wordt ontworpen op basis van uw operationele eisen, met een doordacht design en bewezen technologie. Het resultaat: maximale snelheid, brandstofefficiëntie en veiligheid, zelfs onder de zwaarste omstandigheden.

Van Dyke Marine is vertegenwoordiger van ProZero in de BeNeLux en begeleidt klanten volledig: van eerste advies en ontwerp tot levering, onderhoud en service.



VAN DYKE MARINE

Vertegenwoordiging in de
BeNeLux van

PROZERO
WORK BOATS

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PRO:ZERO
Fast Boats for Professionals



PROVEN TECHNOLOGY

PROZERO OFFSHORE BOATS



At Tuco we specialize in fast boats for professionals. Every day we work to set the standard in innovative lightweight maritime constructions and supreme material technology. We strive to deliver durable solutions that reflect and support the development of a safe, sustainable and prosperous future in maritime logistics.

Customers can rely on Tuco as a loyal partner that draws on intimate market knowledge, expert craftsmanship and years of experience with successful deliveries to ensure more than just customer satisfaction.

#weloveworkboats



PRO:ZERO

The ProZero series is a range of fast boats designed specifically for professional use. They are built to endure the harsh conditions of operations on open sea while providing the operator with an ideal work environment.

With advanced design and sophisticated application of composite materials, the ProZero series offers the customer significant commercial benefits and enhance overall vessel performance and energy efficiency. The ProZero range covers Offshore, Workboats and vessels for Security & Defense.

#weloveworkboats

PRO:ZERO

7.5M FRC MRK3

The 7,5 m FRC is a third-generation design built around the already well proven ProZero 7,5-meter Fast Rescue Boat. The first two iterations of the 7,5-metre FRC design have been developed and tested thoroughly during the ProZero development project for which Tuco received funding under the Horizon2020 SME Instrument programme.

This development project ended in 2018, but Tuco Marine has continued to refine the project results and implement them in the ProZero series. The third generation FRC represents the highest level of refinement yet.



Low weight

Cutting weight and adding value. Low weight design lifts the value chain.

7.5M FRC MRK3

PRO:ZERO 7.5M FRC MRK3





Design: 2019 | 5000-01-19
Length overall, approx.: 7.7 m
Beam overall, approx.: 2.86 m
Draft, approx. (without sterndrive): 2.36 m
Crew: 2 persons
Capacity: 14 persons
Maximum Load (incl. persons): 1310 kg
Engine: 1 x Water jet

OPERATIONAL FEATURES:

Speed (lightweight): 27 kts.
 Speed (full load): 20 kts.

DESCRIPTION

The boat has been built to meet the SOLAS requirements for fast rescue boats

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fibber as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space.

FENDER:

The fender is made from closed cell polyethylene foam. It is non-deflatable and features a solid core that cannot lose buoyancy or absorb water. Any damage is strictly cosmetic keeping crew safe. The fender system absorbs major impacts and retains integrity and shape. The ProZero fender profile gives substantially more interior room than a comparable RIB.

DECK:

Deck is self-bailing.
 Stowage for SOLAS equipment and mooring equipment.
 Mooring bites.
 Single point lifting hook (optional equipment).
 Self-righting system.
 Metallic arch.
 Seats for crew.
 Steering console with all around railing.
 Painter hook (optional equipment).

TECHNICAL:

ENGINES, PROPULSION, STEERING & MANOUVERING

1 x Diesel inboard engine.
 1 x Water jet (Option 1).
 1 x Stern drive (Option 2).

Possibility of twin engine and drive installation for redundant propulsion system.

Main switches with separate battery systems for start and consumption.
 Battery charger with indicator.
 Navigational lights.
 Working lights.
 Searchlight.

TANKS:

Fuel tank (130 liter).

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Isolation transformer with earth plate for protection against galvanic corrosion.

NAVIGATION & ELECTRONIC EQUIPMENT

Electric engine controls. Complete engine instruments with RPM, temperature, oil pressure and voltmeter for start batteries supplied by engine manufacturer.
 1 x start battery and 1 x consumption battery
 Fuel gauge.
 Control panel for all lighting and other electrical equipment.
 Fixed VHF (optional equipment)
 Magnetic Compass

SECURITY EQUIPMENT:

Manual bilge pump.
 Electrical emergency pump in bilge, manual start, in the bilge and in the engine room.
 Fire extinguisher on starboard side of steering console.
 2 x lifebuoys.

DELIVERY:

All boats are launched, tested and calibrated and has gone through a scrupulous quality control at the yard in Denmark.
 Delivery, hand over, test drive and technical review with customer at yard in Denmark. All boats are delivered with a complete owner's manual.

GENERAL:

The boat is built as standard according to the technical specification and our general quality standard. The specification is valid when being printed. Details in construction, design and equipment can be changed as a result of the experience from the use of the boats. The quality and the equipment standard, however, are equivalent at least to this specification. The hull and structure have a 2 years' warranty from the date of delivery. The equipment and devices fitted in the boat have a 1 year's warranty from the date of delivery.

PRO:ZERO



WORKBOATS
7.5M FRC MRK3



OPTIMIZING OPERATIONS

Attending to the human factor. Functional, and ergonomic console layout arranged to maximize the use of state-of-the-art operations management and situational awareness electronic aids.



PRO:ZERO



DECK LAYOUT

MATERIALS

The carbon fibre materials technology secures ultra-high levels of strength and durability at a very low structural weight. The new design presents a very large deck area which will accommodate large payloads or up to 16 persons. New bow and fender configurations have been added for improved safety during transfer operations across the bow.

As standard the FRC features a single water jet installation, but twin water jet installations are available upon request.



Unmatched strength

Confront the elements with confidence. Built for strength, safety and durability.

DECK LAYOUT

The boat has been designed to offer best in class maximized deck areas, enabling optimized operations, load carrying, and passenger capacity.



Swift support

Rest assured and focus on the job. Our skilled technicians are always prepared to offer support.





SUPERIOR MATERIALS

High strength, low maintenance

Clever choices of materials increase performance and productivity. Fiber reinforced composites have great strength-to-weight ratio, physical stability and molding flexibility. This makes them highly attractive for manufacturing the fast and durable ProZero vessels.

Safe and durable

Improved safety is also a benefit of using composites. Drop tests prove that the "sandwich"-type composite panels used in the ProZero series have better energy absorption capacity compared to for instance aluminium. This means that the structural integrity of the vessel is better preserved in the occasion of collision with objects. The sandwich panel acts as a closed cell, so that in the event of a collision where the outer skin is compromised, water intake is confined and obstructed whereas a similar aluminum panel will suffer full penetration which sets the vessel and crew at risk.

Working together

At Tuco, we carefully draw out all the potential inherent in these materials and we continuously work together with the Danish Technical University amongst others to verify the mechanical properties and advantages of composites.



Unmatched strenght

Confront the elements with confidence. Built for strenght, safety and durability.

WHY CARBONFIBRE COMPOSITES

Many people are not aware of the advantages of carbon fibre composites over aluminium, so here we will highlight some of them.

LIFE SPAN

Composite boats have longer life span due to their non-corrosive nature and the capacity of the materials to dampen vibrations and protect against structural degradation. Fast going aluminium boats have a maximum lifespan of 15 to 20 years before vibrations starts generating cracks in the welding/ plate connections. The relative difference in stiffness between welded connections and plating means that forces cannot be transferred to and from the plating without creating cracks over time.

WEIGHT

Generally, carbon fibre composite boats are 30% lighter than comparable aluminium boats. This translates into less fuel consumption and higher speeds. Carbon fibre itself is known for its impressive strength-to-weight ratio which is higher than all other materials used in boatbuilding. Although carbon fibre is four times stronger than high-grade steel, it weighs only 25% as much.

	Type	Density	Tensile Strenght	Young Modulus
		kg/m3	Mpa	Gpa
Steel	Low-grade	7750	150-1500	210
Steel	High-grade	7600-8000	200-2000	190-205
Aluminium	Alloy	2700-2800	34-500	
Glassfiber	E-glas	2540	2400	73
Carbon fibre	T700	1770	5300	235

IMPACTS/SAFETY

Composite boats are much safer than aluminium boats. When aluminium boats are subjected to impacts, the hull is often penetrated. A simple drop test clearly shows the improved safety of a sandwich composite hull structure. By dropping a 12-kilo weight from 5 meters of height onto an aluminium hull plate, the hull plate will be penetrated. Consequently, there is a risk of water ingress and both crew and boat are exposed to danger.

The same test performed on a sandwich panel shows that only the outer skin of the structure is penetrated while the core material absorbs the remaining energy, leaving the inner skin undamaged This means no risk of water ingress and less danger to boat and crew members.

PAINTS AND SURFACES

Aluminium surfaces need constant maintenance since any minor scratches or compromises to the paint will expose the aluminium. Under such circumstances the aluminium will start to oxidize, and more paint will start peeling off and result in further surface degradation.

With composites, scratches are purely cosmetic and no repaint or maintenance is needed.

Applications

During the last century, carbon fibre has been the preferred material for any high-end application. Giant steps forward in the use of carbon fibres, not only in the space industry but also more generally in the commercial aerospace industry, has led to significant developments in carbon fibre production and lowering of prices. Better availability has led to an extended use of carbon fibre in more industrial applications – including high-speed marine applications which leaves aluminium in second place in the race for high-performing, durable maritime solutions.

PRO:ZERO

MATERIALS COMPOSITES

PRO:ZERO

DROPTEST COMPOSITES VS ALUMINIUM

DROPTEST: COMPOSITE

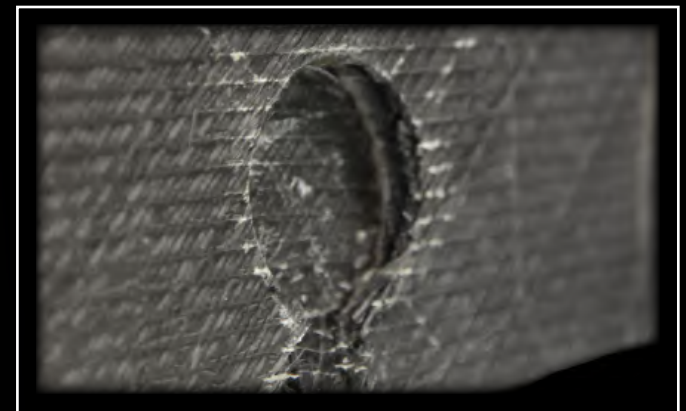
Composite hull structure

- Dropping a 12,5 kg load from 6 m height.
- 25mm sandwich panel with PVC core.
- A controlled release mechanism lets the load falls straight down and ensures reproducibility of results.

RESULT:

Absorbs the impact

- Only the outer skin of the hull structure is penetrated – **No water intake, no immediate risk** for boat and crew.
- The sandwich core absorbs the energy from the impact and the inner skin remains undamaged.
- The vessel can return safely to harbour with no risk for crew and vessel.



* Image shows penetration of only the frontside of the sandwich panel because the inner core absorbed the impact

DROPTEST: ALUMINIUM

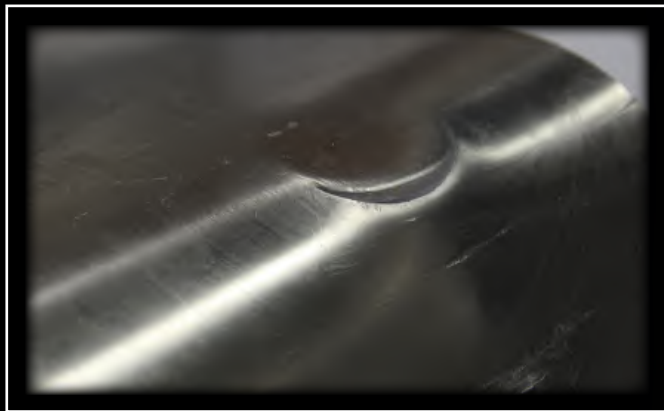
Aluminium hull plating

- Dropping a 12,5 kg load from 6 m height.
- 5 mm aluminium hull plate.
- A controlled release mechanism lets the load falls straight down and ensures reproducibility of results.

RESULT:

Water intake

- Impact on the aluminium hull plating results in **immediate water intake** with **crucial risk** for crew and boat.
- Damage like this requires instant attention.



* Image shows full penetration of the aluminiums plate

PRO:ZERO

DROPTEST COMPOSITES VS ALUMINIUM

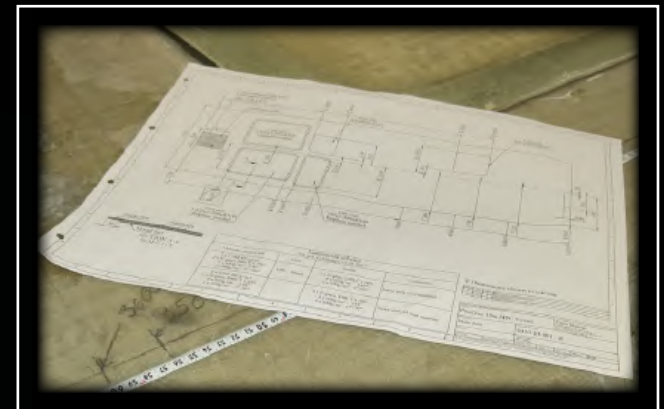
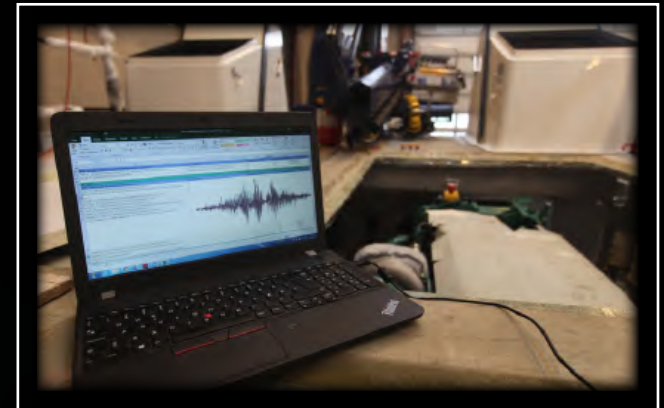
QUALITY ASSURANCE

QUALITY ASSURANCE

Quality comes first

Quality is a keyword at Tuco Marine Group. In our pursuit of excellence, it is crucial that the quality is under complete control. We work nonstop to ensure that our products and services not only fulfill, but surpass quality requirements.

Our skilled employees secure high quality at every step in the manufacturing process by performing systematic measurements and continuous monitoring of raw materials, components, assemblies and finished products.



WORKSHOP AND INSTRUCTIONS

Professional training – skilled instructors

We can provide a variety of operations and maintenance courses that can accommodate clients from a number of sectors including Wind, Maritime, Oil & Gas and Military. Teaching is performed by our expert instructors, who have trained more than 8000 people.

A selection of ProZero courses:

- Introduction to materials
- Introduction to basic techniques
- Safety
- STCW - Personal Survival Techniques
- STCW - Proficiency in Fast Rescue Boats
- STCW - Proficiency in Fast Rescue Boats Refresh

Contact us at mail@tuco.dk for more info.



PRO ZERO

TWO DAY WORKSHOP INCLUDED

PRO:ZERO



HIGH SPEED RESCUE

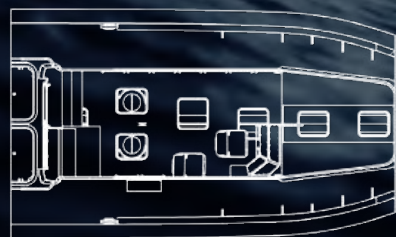
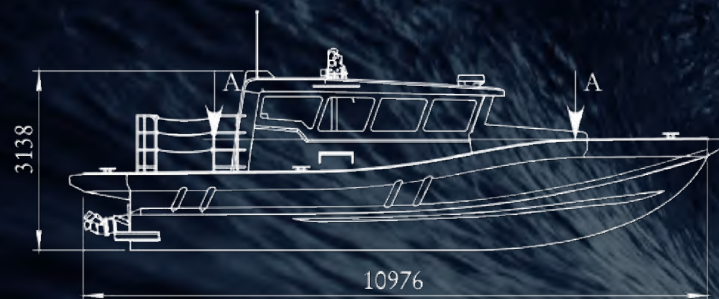
The ProZero Fast Rescue Daughter Craft (FRDC) are specifically designed for fast launch and recovery from davits offshore and Emergency Response, Search and Rescue and Patrol operations away from a mothership.

All ProZero Daughter Craft feature the exceptional vacuum-infused ProZero composite hull for optimal strength and responsive handling at speed, even in very aggressive conditions. Our 11m ProZero FRDC can accommodate up to 12 passengers or 24 emergency survivors.

All our Daughter Craft are rigorously tested to ensure their self-righting capability in all conditions and are constructed to be virtually unsinkable. ProZero Daughter Craft are available in a range of lengths with different propulsion systems and with customizable configurations to suit the client's specific requirements.

11M

FAST RESCUE DAUGHTER CRAFT



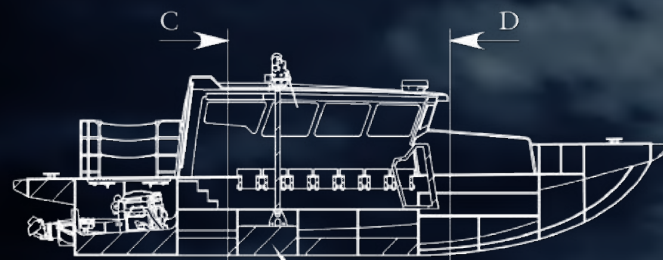
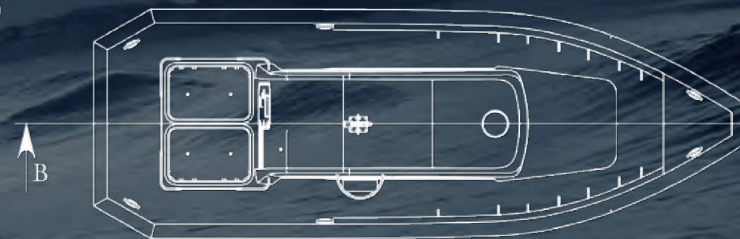
SECTION A-A



SECTION C-C

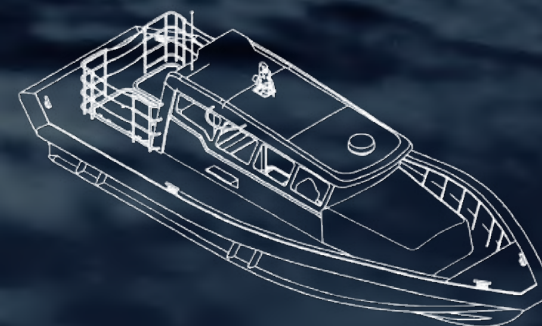
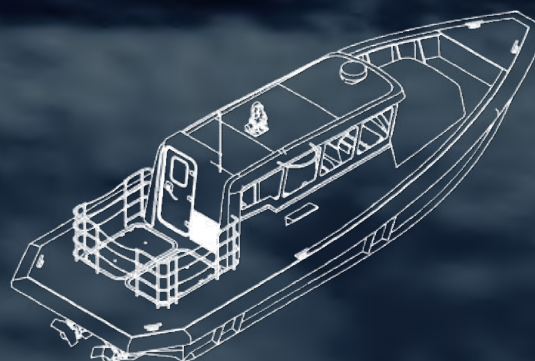


SECTION D-D



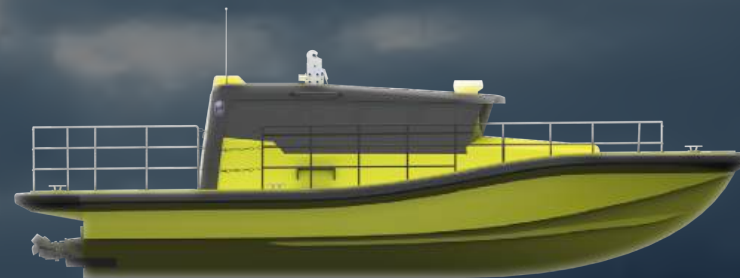
SECTION B-B

Fuel tank



PRO:ZERO 11M FRB - FRDC





Design: 2019 | 5000-03-54
Length overall, approx.: 11 m
Beam overall, (with fender): 3.5 m
Capacity: 26 passengers
Maximum Load: 1.000 kg
Engines: 2 x inboard diesel

OPERATIONAL FEATURES:

Maximum speed: +35 kts (with 2 persons)
 Speed (cruise): 20 kts

DESCRIPTION:

The ProZero Fast Rescue Daughter Craft (FRDC) are specifically designed for fast launch and recovery from davits offshore and Emergency Response, Search, Rescue and Patrol operations away from a mothership.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass and carbon fibre as a sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability, improving the comfort in the cabin and manned compartments.

FENDER:

The fender is constructed of closed cell polyethylene foam with a solid core that cannot lose buoyancy or absorb water. The solid construction of the fender ensures the safety of the vessel and its crew. The fender system absorbs impacts and retains integrity and shape.

DECK:

Handrails placed to allow safe passage around the cabin and on deck.
 6 x Mooring bites.

CABIN & COCKPIT:

2 x Dampened seats in the cabin for crew personnel + seats for 15 passengers. The forecabin has seats for 9 passengers and room on the floor for one passenger. Optionally a toilet can be installed in the cabin but will affect the maximum number of passengers. A lifting hook is mounted on the cabin roof with a safe working load of 8 tons. A step is installed on the cabins starboard side, used to reach the lifting hook for inspection and operation. Windscreen wipers installed on front windows. Defreeze system for windows with hot air blowers.

TECHNICAL:

ENGINES, PROPULSION, STEERING etc.
 2 x Inboard diesel engine
 2 x Waterjets

TANKS:

2 x Structural diesel tanks with hatch and filling protection with a combined capacity of 500 L.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 12-volt electrical system.
 2 x start batteries and 1 consumption battery.
 Main switches with separate battery systems for start and consumption.
 Battery charger with indicator.
 Navigational lights.
 Led lights in cabin and cockpit.

NAVIGATION & ELECTRONIC EQUIPMENT:

Complete engine instruments supplied by engine manufacturer.
 Control panel for all lighting and other electrical equipment.
 1 x Magnetic compass.

SECURITY EQUIPMENT:

3 x Bilge pumps.
 Fire extinguishers.
 An optional automatic fire extinguisher system can be fitted in engine room.

DELIVERY:

All boats are launched, tested and calibrated and has gone through a scrupulous quality control at the yard in Denmark. Delivery, hand over, test drive and technical review with customer at yard in Denmark. All boats are delivered with a complete owner's manual.

PRO:ZERO



WORKBOATS
11M FAST RESCUE DAUGHTER CRAFT

11M FAST RESCUE DAUGHTER CRAFT

The ProZero 11m Fast Rescue Daughter Craft offers a spacious aft deck to carry out rescue missions and a purpose-build fender system for optimum protection during missions as well as under Launch and recovery of the FRDC.

PRO:ZERO



Efficient and proven hull

Matchless strength-to-weight and seaworthiness. Shaping first-class hulls with precision technique and cost-effective production.

DECK LAYOUT

SYSTEMS

The advanced onboard systems can include electronic communication and navigation equipment, as well as an inflatable self-rightening system, Jasons cradle, and single point lifting.



Swift support

Rest assured and focus on the job. Our skilled technicians are always prepared to offer support.

INTERIOR DESIGN

The interior has been designed to provide the user with maximal safety and spacious working conditions. Ergonomic seats ensure a safe ride, and the cockpit layout is arranged to maximize the use of state-of-the-art operations management and situational awareness electronic aids.



Flexible construction

Construction with a purpose.
Know-how and expert engineering at the service of unique client demands.



PRO:ZERO

EASY ACCESS TO HOOK

The ProZero design ensures easy access to the lifting hook from the front deck or through a passageway in the cabin. Safety railing is mounted so that the hook operator can focus fully on the job at hand. Certified and safety approved lifting mechanisms can be fitted according to customer preference.



Low consumption

Minimized operating costs and improved environmental impact. For a sustainable and prosperous future.

ROBUST HOOK MECHANISMS SAFE AND EASY ACCESS



LAUNCH AND RECOVERY

Not taking any risks

Launch and recovery of Daughter Crafts is an area that requires exceptional vigilance. The ProZero series is carefully designed to secure maximum safety and reliability for the users in these high-risk situations, and special care is taken in the design process to ensure accessibility to hooking points.

Lighter overall solution

Due to the lightweight construction of the ProZero Daughter Crafts, less stress is exerted on the lifting equipment. This allows fitting of lighter davit equipment which benefits the overall naval architecture and saves resources that enable clients to pursue their real goals. Light weight solutions lift the entire value chain.

We work closely with a number of leading equipment manufacturers and we are happy to include customized LARS solutions for individual clients.



Low weight

Cutting weight and adding value. Low weight design lifts the value chain.



PRO:ZERO





PRO:ZERO

STURDY RAILINGS

OPTIMAL WORK SPACE AND SAFETY

SAFETY ONBOARD

The foredeck is a large, skid proof cargo deck that is reachable by crane from the turbine or mothership. The helmsman can maintain a clear view of the cargo and deck crew while loading/unloading.

ROBUST RAILINGS

Sturdy railings are installed around work areas to ensure the safety of the personnel. The railings can be removed to accommodate oversized cargo and to provide easy access and transfer.

LASHING POINTS

Dedicated cargo zones with lashing points are installed on deck to secure cargo during operations. The deck has been reinforced to accommodate the added load.

LIFTING EQUIPMENT

The ProZero Daughter Crafts can be equipped with a hydraulic crane for easy handling of equipment and cargo. Different onboard cranes are available to ensure compliance with local regulations.



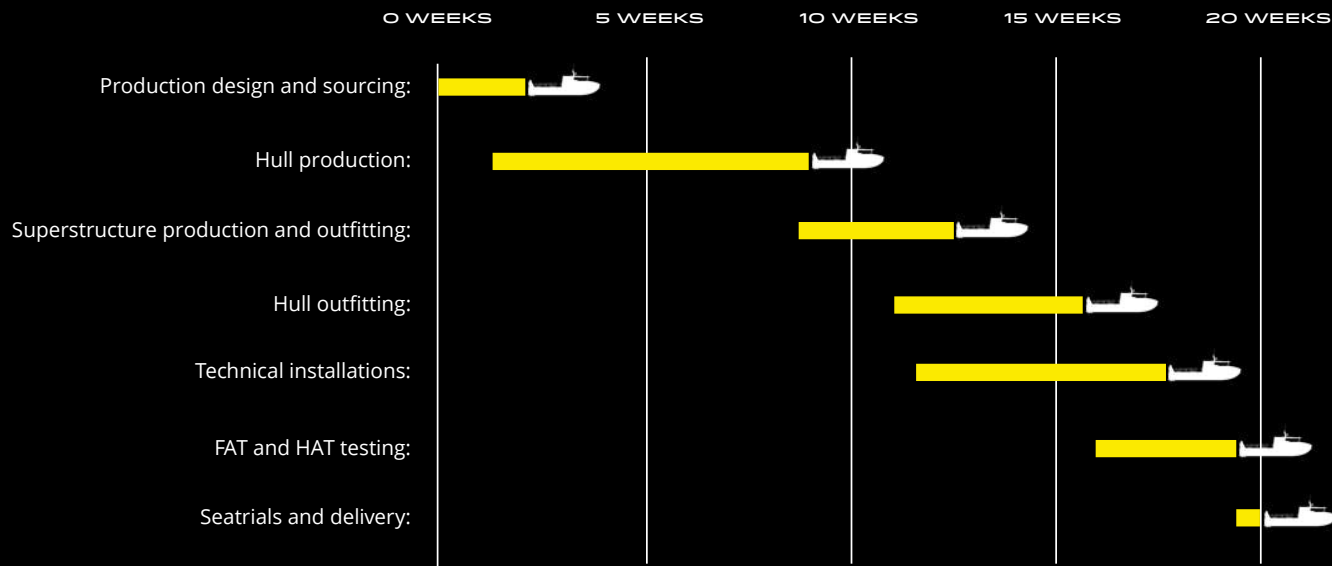
Flexible construction

Construction with a purpose.
Know-how and expert engineering
at the service of unique client
demands.

PRO:ZERO



PRO:ZERO



SERIAL PRODUCTION

Merging unparalleled quality with cost-efficiency and prompt delivery

Construction with fiber-reinforced composites is highly suited for serial production. Tuco has developed an exceptionally efficient modular production method to fully exploit the advantages inherent in composite materials.

To guarantee product excellence and quality uniformity across our range of vessels, female moulds are applied in the production of all ProZero hulls. This permits a very high degree of accuracy and consistency in the manufacturing process so that every single hull lives up to our rigorous quality standards. Production using high quality moulds outperforms any other building technique in terms of cost-effectiveness.

Our modular production method enables us to integrate specific design requests and we cooperate closely with all involved stakeholders to deliver uncompromising quality and excellent products without sacrificing short delivery times.



SHORT LEAD TIME

EFFICIENT PRODUCTION PLATFORM

SERVICE AND SUPPLY

Far and wide – support is always within reach

The reliability and speed of our products is echoed in our range of support services. We are committed to act fast whenever a customer needs us. We appreciate the significance of constant operational capacity, and Tuco Marine's Spare Parts and Service Team helps to intercept unexpected downtime and keep productivity at a maximum.

The team is staffed by some of the most skilled technicians in the industry and they work to ensure the highest possible level of technical support for our clients.

Integrating the best equipment

Beyond that, we have long-lasting relationships with OEMs. We collaborate with key vendors from the early design phase to integrate the best features into the building process. This way we create a safer and more comfortable boat for the crew.

Our extensive product knowledge and our unique ties with the industry allows us to offer a high degree of availability and coverage – we extend our support far beyond what you might expect from a boat-builder.



Swift support

Rest assured and focus on the job. Our skilled technicians are always prepared to offer support.

PRO:ZERO

FULL SUPPORT SKILLED SERVICE TEAM

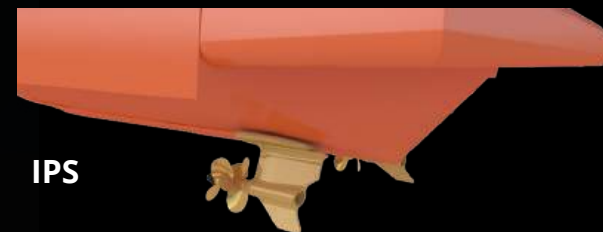
PRO:ZERO



MOVE FORWARD
YOU CHOOSE HOW

PROPULSION OPTIONS

The ProZero Daughter Crafts can be delivered with different propulsion systems according to customer needs.



IPS



Water Jet



Sterndrive

Further propulsion options are available:

Shaft drives

Outboards

EASY CONNECT FENDER

Close connections

The Easy Connect fender is optimized for safety and functionality

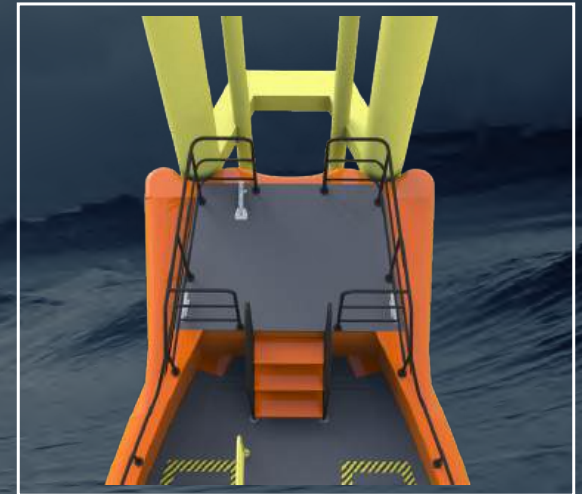
Easy Connect Fender

The Easy Connect fender is designed for enhanced grip in order to facilitate landing and safe transfer operations at stationary installations. The fender is made of closed cell polyethylene foam with a non-deflatable solid core that maximizes durability and landing grip. The standard Easy Connect fender is equipped with a high friction surface. Low friction surface is available upon request. The Easy Connect fender is bolted to the hull which allows easy replacement if damaged or substitution if an alternative landing profile is required.

2015



2017



EASY REPLACEMENT AND UPGRADE

Upgrade kit available

Upgrading to the Easy Connect fender is quick and efficient. The Easy Connect fender is composed of only three individual sections, which reduces cost and time required for upgrading.

Old



New



PRO:ZERO
2009

ESCORTING OFFSHORE WIND FARMS INTO THE FUTURE

Tuco Marine's ties with the wind industry is practically as old as the industry itself. With our state-of-the-art range of ProZero Daughter Crafts for SOV deployment, we demonstrate our unbroken commitment to the sector. Building on the AluGuard series, Tuco Marine's first range of service boats, the ProZero series represents the quintessence of a tried, perfected and validated technology.

Paving the seaway

The robust and agile ProZero DCs are built to provide the best possible support in connection with transfer operations between Wind Service Operation Vessels (SOV) and wind turbines. The scale and remoteness of modern-day offshore wind farms requires accommodation of crew and technicians on SOVs. The ProZero design represents a direct response to the demands of this sector where transport of personnel and cargo between SOVs and wind turbines requires increasing attention to safety, dependability and efficiency.

The ProZero Daughter Crafts carry crew and technicians to their destination with confidence and strengthen the value stream for the operators.



Efficient and proven hull
Matchless strenght-to-weight and seaworthiness. Shaping first-class hulls with precision technique and cost-effective production.

OFFSHORE WIND FARMS

A SHARED HISTORY OF PROGRESS

PRO:ZERO
2018

PROZERO DAUGHTER CRAFTS
PROVEN TECHNOLOGY

PRO:ZERO



***2015 DESIGN**

11M
DAUGHTER CRAFT

MEETING THE DEMANDS FOR SAFE TRANSFER

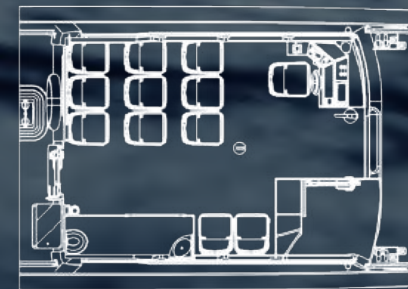
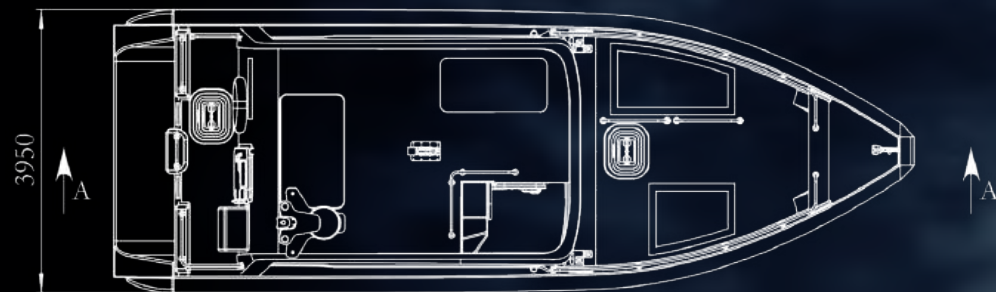
The 11m DCW Offshore Transfer is a fast transfer boat designed specifically for transporting personnel. It is a highly versatile and flexible vessel that is designed to meet the high safety and operational requirements for this type of boat. In addition to its purpose as a fast crew and passenger transporter, it is also capable of performing a range of other tasks where agility and efficiency is important.

The design allows for easy access from both fore and aft deck with an emphasis on quick, but safe accommodation of passengers in the cabin and cargo on the foredeck. Particular measures have been taken to develop the specialized boarding area at the bow fender, or optionally at the side fender, to guarantee safe passage for crew and personnel.

For daughter craft versions, the safe launch and recovery mechanism can be altered according to individual specifications and can be fitted for both single point hoisting or access to a stern garage on a mothership. Besides improved comfort, efforts have been made to secure a high level of redundancy to keep the vessel operational and fit as a stand-alone unit that is capable of carrying out transfer operations to and from shore.



***2019 DESIGN**



PRO:ZERO 11M DCW - OFFSHORE TRANSFER





Design: 2016 | 5000-03-38
Length overall, approx.: 11,48 m
Beam overall, approx.: 3,85 m
Draft (full load), approx.: 0,73 m
Displacement (full load), approx.: 9.500 kg
Capacity: 10 passengers
Maximum load: 1.000 kg
Engines: 2x inboard diesel

BENEFITS:

This daughter craft is developed for wind farm service, with a specially designed fender for safe transfers. The design of the ProZero cabin ensure a huge amount of daylight, this also improve the personal comfort. Benefits by being significantly lighter than market average are lower fuel consumption and lighter lifting equipment on mother vessel. Supporting the great and proven sailing capabilities.

OPERATIONAL FEATURES:

Speed: 25-30 kt (with 3 persons)
 Speed (cruise): 25 kt
 Range: 8 hours at cruise speed.
 Fuel capacity: 600 l

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities, and features a redundant propulsion system.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fibre as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability, improving the comfort in the cabin and manned compartments.

FENDER:

The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe. Fender system absorbs major impacts and retains integrity and shape. ProZero fender's profile gives substantially more interior room than a comparable RIB. The fender has a special profile in the boat shaped to fit into the docking station of the wind mills, enabling a safe transfer between this one and the boat. Also, the frontal section is a separate wearing part bolted to a special reinforced composite profile in the bow, so it can be easily replaced.

DECK:

Equipped for single point lifting hook.
 Deck and cabin are self-bailing.
 Large working area in the fore deck.
 Transfer raised platform in the bow with stepped transition between this one and the main deck.
 6 mooring bites.
 Aluminium railings in aft and fore deck.
 Aft platform over the water jets

CABIN & COCKPIT:

Toilet with WC and washbasin.
 8 comfort seats for passengers plus 2 pilot seat.
 Hinged door in the aft of the cabin.
 Hinged door in the front of the cabin.
 Defreeze system for windows with hot air blowers.
 All windows are glued into the structure.
 Led lights in cabin and cockpit.
 Comfort insulation in the cabin.

TECHNICAL:

ENGINES, PROPULSION, STEERING etc.

2 x inboard diesel engine 2 x Sterndrivers,
 Engine split for redundancy
 Redundant propulsion system

TANKS:

Structural diesel tank with hatch and filling protection.
 Independent fresh water tank.
 Independent dark water tank with odourless filter.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.
 24-volt electrical system.
 Main switches with separate battery systems for start, navigation and consumption.
 Battery charger with indicator.
 1 x searchlight on cabin roof, manual operated.
 Navigational lights.
 2 x floodlight on the working foredeck

NAVIGATION & ELECTRONIC EQUIPMENT:

Complete engine instruments supplied by engine manufacturer.
 Fuel gauge.
 Control panel for all lighting and other electrical equipment.
 1 x magnetic compass

SECURITY EQUIPMENT:

Bilge pumps
 Fire extinguisher at helmsman station
 Automatic fire extinguisher system in engine room

PRO:ZERO

PREVIOUS MODEL

INTERIOR DESIGN

The interior has been designed to provide the user with maximal comfort and spacious working conditions. Ergonomic seats ensure a comfortable ride, noise insulation eases communication and large windows afford ample light and great visibility.



Comfortable cabin

Attending to the human factor. Functional, bright and ergonomic working conditions with noise insulation for ease of communication.



NOISE INSULATION

EFFORTLESS COMMUNICATION

The image shows the interior of a vehicle cab, likely a truck or heavy machinery, at night. The cab is illuminated by warm, yellowish interior lights. The dashboard features a large digital display showing a map, several smaller gauges, and various control buttons. A steering wheel is visible in the center. To the right, there is a large, adjustable seat with a green mesh backrest and a black seat cushion. The windows show a dark exterior with some distant lights. The overall atmosphere is professional and modern.

PRO:ZERO

COMFORTABLE RIDE
AIR SUSPENDED SEATS

PRO:ZERO



WIDENING THE WINDOW

The 13-meter DCW is developed on the basis of its smaller sibling, the 11-meter DCW Offshore Transfer vessel. It is perfect for safe and efficient transport operations to and from offshore installations.

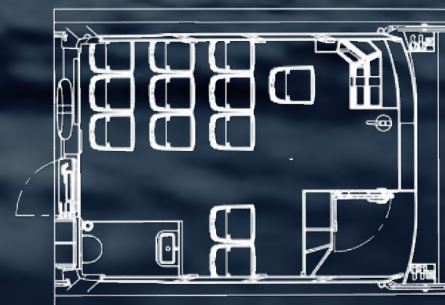
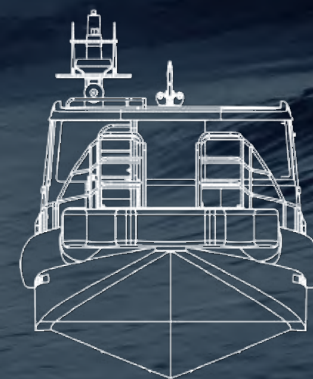
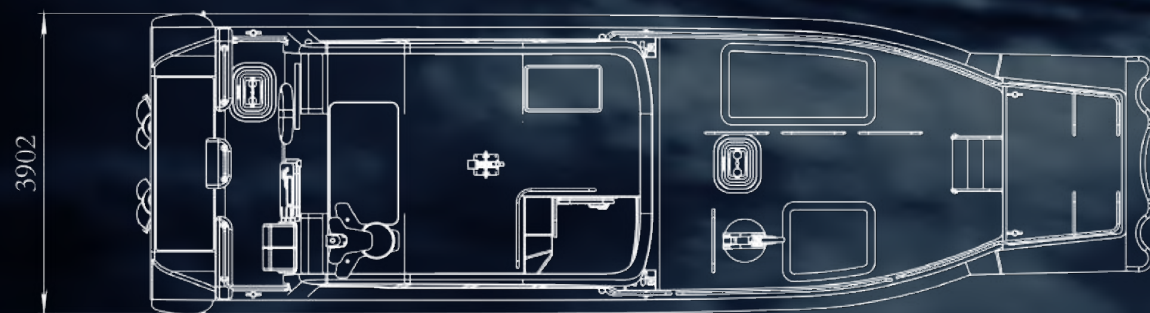
The boat is designed to meet our rigorous quality standards and embodies a range of features developed in close interaction with end-users and experts in wind farm services.

Gliding along on the tried and tested ProZero hull design, the 13m DCW carries its crew and passengers at speeds of up to 30 knots and handles the roughest conditions. The increased waterline length enhances performance, speed and stability further, thus adding value by enabling operators to take advantage of even greater transfer openings – all while preserving the essential qualities of the ProZero series, namely low weight and outstanding fuel efficiency.

The 13-meter DCW can easily be tailored to suit particular customer needs.

13M

DAUGHTER CRAFT



PRO:ZERO 13M DCW - OFFSHORE TRANSFER





Design: 2016 | 5000-03-44
Length overall, approx.: 13,1 m
Beam overall, (with fender): 3,9 m
Displacement fully loaded: 12.000 kg
Crew: 2
Capacity: 10 passengers
Maximum Load: 1.000 kg

OPERATIONAL FEATURES:

Speed (max): +25 kt
 Range: 10 hours cruise speed.

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fibber as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material.

FENDER:

The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe. The fender profile in the bow is custom shape to fit with the landing station of the windmills, ensuring an easy and safe transfer of technicians in between both.

DECK:

Black anodized aluminium railings.
 Decks are self-bailing.
 Decks are painted with anti-skid finishing.
 Storage are for hazardous goods in fore deck.
 Storage for mooring equipment.
 6 x mooring bites.
 Bow stepped boarding access.
 Raised platform in the bow for personal transfer.
 Aft platform.
 Attachment for single point lifting hook.
 Step access to hook in front of the cabin.
 Hydraulic crane.

CABIN & COCKPIT:

10 Seats for crew and 2 seats for passengers.
 Hinged door in the front of the cabin.
 Hinged door in the aft of the cabin.
 Windshield wiper with interval relay.
 All windows are glued into the structure.
 Lights in cockpit with dual mode white / red light.
 Chart lamp with white and red light.
 Comfort insulation in the cabin.
 Toilet with WC and sink.

CABIN & FORECASTLE:

Hinged door in the aft of the cabin.
 Toilet with WC, sink and shower, with direct access from working deck though a hinge door on the cabin aft.
 Hatch to access the mast.
 Windshield wiper.
 Led lights in cabin and cockpit.
 Chart table and lamp with white and red light.
 Comfort insulation in the cabin.
 2 x Comfort seats for crew.
 9 x Comfort seats for passengers inside the cabin.
 2 x Cabins for 2 persons each.
 1 x Pantry with sink, stove and fridge.
 Hatch to access the foredeck from the forecastle.
 Heating system in both cabin and forecastle.

TECHNICAL:

ENGINES, PROPULSION, STEERING & MANOUVERING:

3 x outboard engines
 1 x independent diesel genset (4kVA approx.)
 1 x Hydraulic power pack

TANKS:

Fuel tanks with hatch and filling protection.
 Fresh water tank
 Black water tank with odour filter.

NAVIGATION & ELECTRONIC EQUIPMENT:

Electric engine controls. Complete engine instruments with RPM, temperature, oil pressure and voltmeter for start batteries supplied by engine manufacturer.
 Fuel gauge.
 Control panel for all lighting and other electrical equipment.
 Magnetic Compass
 GPS
 VHF

SECURITY EQUIPMENT:

Manual bilge pump
 Electrical emergency pump
 High water level alarm in bilge.
 Portable fire extinguishers

GENERAL:

The boat is built as a standard according to the technical specification and our general quality standard. The quality and the equipment standard, however, are equivalent at least to this specification.

DELIVERY:

All boats are launched, tested and calibrated and has gone through a scrupulous quality control at the yard in Denmark. Delivery, hand over, test drive and technical review with customer at yard in Denmark. All boats are delivered with a complete owner's manual.

PRO:ZERO



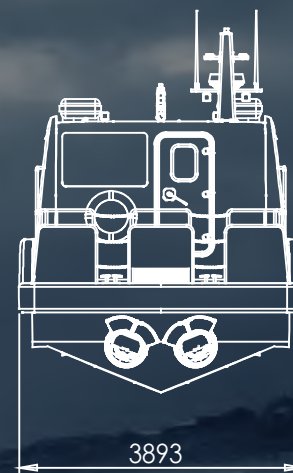
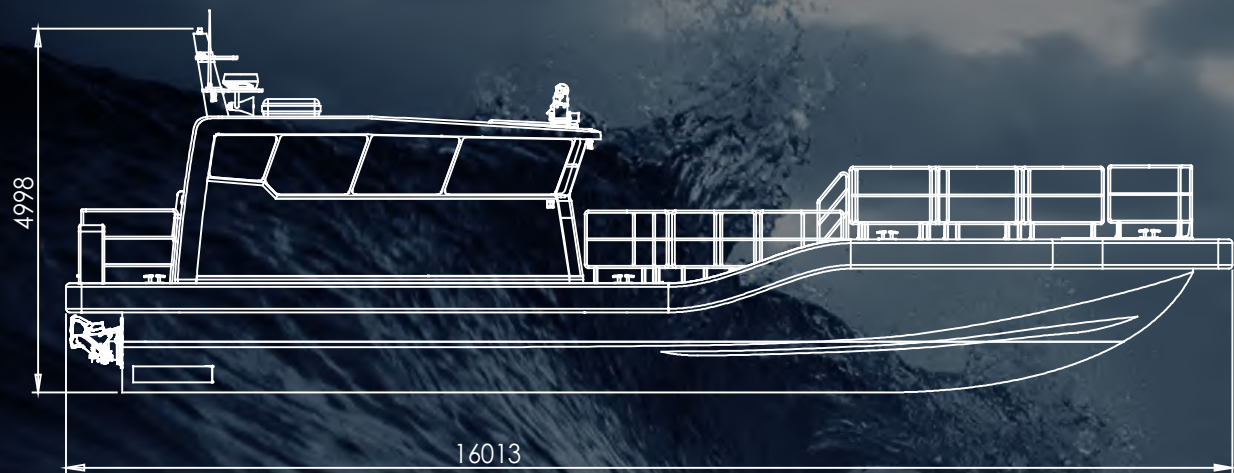
MAKING THE MOST OF IT

Taking it one step further, the 15-meter DCW carries forward all the advantages of its smaller counterparts while adding even more stability and rough sea performance. Thus, operators can take advantage of even greater transfer openings and keep productivity at a maximum.

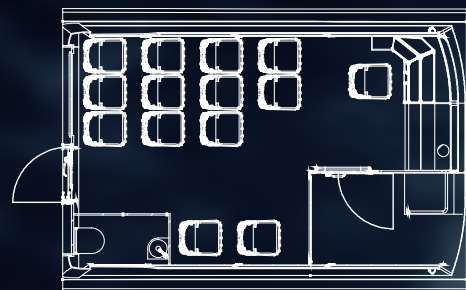
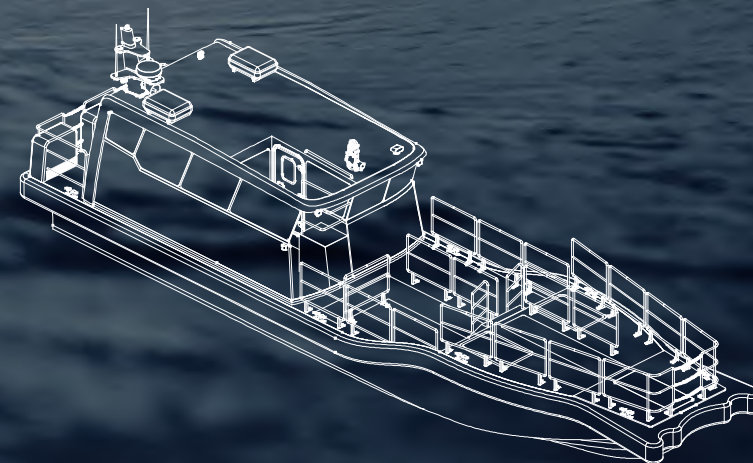
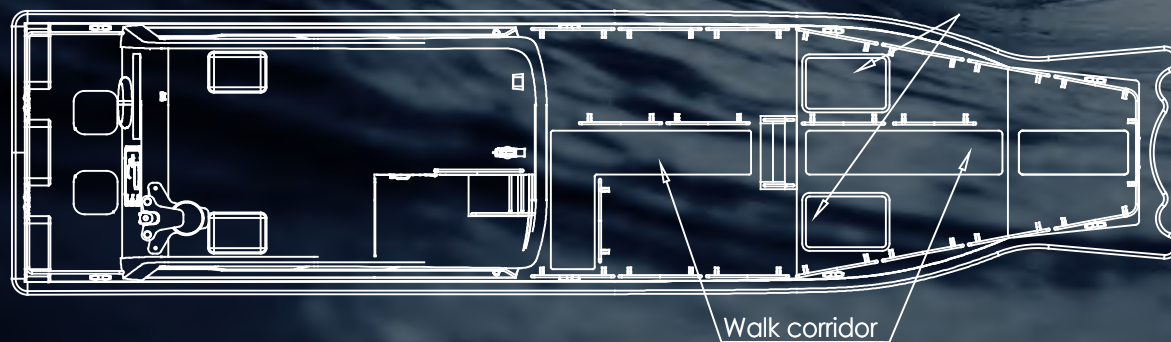
It features the proven ProZero hull design made from a combination of glass and carbon fiber materials in a PVC-cored sandwich structure. This guarantees the trademark properties of the ProZero vessels, namely low weight, great performance and outstanding fuel economy.

This 15-meter crew transfer vessel is the product of the usual care and attention to detail that Tuco puts into every project. The design is in full compliance with pertinent regulation and requirements of classification societies and makes available all the tools and safety features necessary for the crew to perform their daily tasks with confidence and efficiency. Like its smaller counterparts, the 15-meter DCW design is open to customization and accommodation of unique customer specifications.

15M
DAUGHTER CRAFT



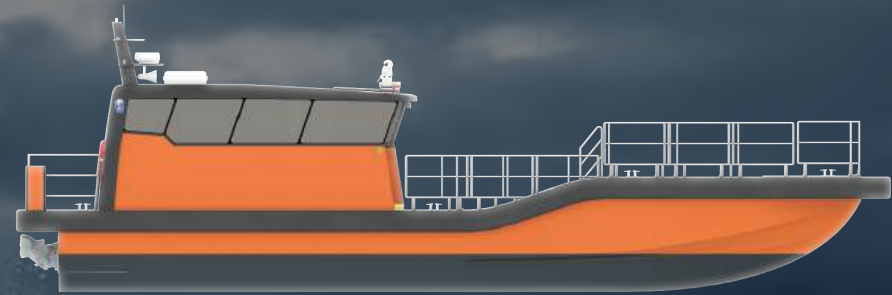
Cargo areas
1200 x 800 mm



Cabin Interior

PRO:ZERO 15M DCW - OFFSHORE TRANSFER





Design: 2017 | 5000-03-37
Length overall, approx.: 16,02 m
Beam overall, approx.: 3,89 m
Draft (full load), approx.: 0,70 m
Capacity (incl. crew): 14 passengers
Maximum load: 1.000 kg
Engines: 2x inboard diesel

BENEFITS:

This daughter craft is developed for wind farm service, with a specially designed fender for safe transfers. The design of the ProZero cabin ensure a huge amount of daylight, this also improve the personal comfort.

Benefits by being significantly lighter than market average are lower fuel consumption and lighter lifting equipment on mother vessel.

OPERATIONAL FEATURES:

Speed: 35 kt (lightweight)
 Speed (cruise): 25 kt
 Fuel capacity: 800 l

DESCRIPTION:

The boat has been built to meet the requirements from the competent authorities, and features a redundant propulsion system.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fibre as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability, improving the comfort in the cabin and manned compartments.

FENDER:

The fender is constructed of closed cell polyethylene foam. Not deflating with solid core that cannot lose buoyancy or absorb water. Damage is strictly cosmetic keeping crew safe. The fender has a special profile in the boat's bow and stern shaped to fit into the docking station of the wind mills, enabling a safe transfer between this one and the boat. Also, fender sections in this areas is a separate wearing part bolted to a special reinforced composite profile in the bow, so it can be easily replaced.

DECK:

Deck is divided in three levels, aft deck, main deck and bow transfer platform, with an aluminium ladder to access the last one from the main deck.

Equipped for single point lifting hook.
 Deck is self-bailing.
 Cargo area in the front deck.
 8 metallic mooring bites.
 Aluminium railings in aft and fore deck.
 Aft platform over the water jets

CABIN & COCKPIT:

Toilet with WC and washbasin.
 12 comfort seats for passengers plus 2 pilot seat.
 Hinged door in the aft of the cabin.
 Hinged door in the front of the cabin.
 Defreeze system for windows with hot air blowers.
 All windows are glued into the structure.
 Comfort insulation in the cabin.
 Protected exit on the cabin front, in starboard side, for access to the lifting hook and to the transfer area.

TECHNICAL:

ENGINES, PROPULSION, STEERING etc.

2 x inboard diesel engine
 2 x water jet.
 Redundant propulsion system.

TANKS:

Structural diesel tanks.
 Independent fresh water tank.
 Independent dark water tank with odourless filter.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.
 24-volt electrical system.
 1 x searchlight on cabin roof, manual operated.
 Navigational lights.
 2 x floodlight on the working foredeck
 2 x floodlight on the aft cargo deck.

NAVIGATION & ELECTRONIC EQUIPMENT:

Complete engine instruments supplied by engine manufacturer.
 Fuel gauge.
 Control panel for all lighting and other electrical equipment.
 1 x magnetic compass

SECURITY EQUIPMENT:

Bilge pumps
 Fire extinguisher at helmsman station
 Automatic fire extinguisher system in engine room.

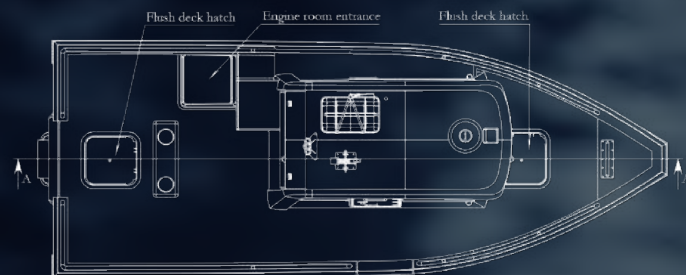
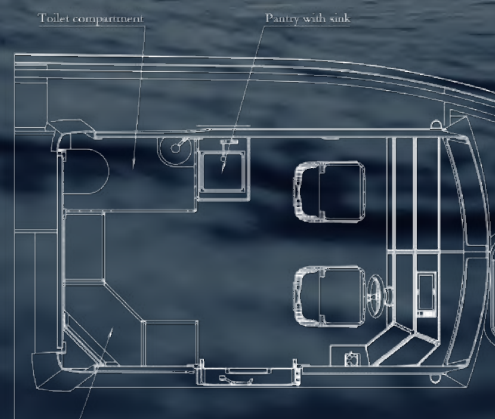
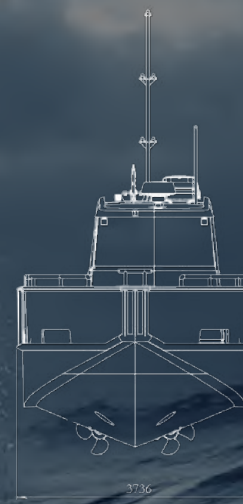
PRO:ZERO



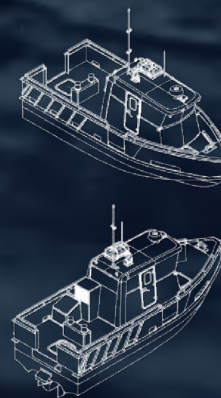
VERSATILITY IS KEY

With its large deck and wide array of configuration options, the 9,5 m ProZero FPSO Workboat is an incredibly durable utility platform that can be tailored to a broad range of requirements. This particular 9,5 m ProZero FPSO Workboat is designed for hose and line handling operations as well as for oil spill response missions. The boat benefits from the same robust construction as its larger, ocean-going siblings. Like all ProZero boats, the hull is moulded from vacuum infused composite materials which help to secure outstanding strength and performance. The 9,5m Workboat can be configured to accommodate a wide range of single and twin-engine propulsion options. Key features of the workboat include a comfortable wheelhouse for all weather operations, a option of a safety bar shielded foredeck, a open aft deck for the transport, deployment and recovery of lines, hoses and oil containment booms and large transom doors to facilitate water access. For alternative uses, the ProZero 9,5 Workboat may be configured with a completely flat working deck. Further deck layouts are available, as are custom dive doors, tie-downs, forward and aft towing posts, various fendering systems and other mission-specific features.

9.5m
FPSO WORKBOAT



SECTION B-B
SCALE 1 : 20



PRO:ZERO 9.5M FPSO WORKBOAT





Design: 2019 | 5000-05-14-02
Length overall, approx.: 9,5 m
Beam overall, approx.: 3,7 m
Weight: 8,0 t
Capacity (incl. crew): 6 passengers
Engines: 1x inboard diesel

OPERATIONAL FEATURES:

Bollard Pull: 5t

BENEFITS:

This Vessel is designed for high bollard pull, hose and line handling. The design of the ProZero cabin ensure a huge amount of daylight, this also improve the personal comfort. Benefits by being significantly lighter than market average are lower fuel consumption. Supporting the great and proven sailing capabilities.

DESCRIPTION:

The boat has been built to meet the quirements from the competent authorities.

HULL, DECK AND SUPERSTRUCTURE:

The boat is made of a combination of glass- and carbon fibre as sandwich construction with PVC as core material. This core material act as a natural buoyancy reserve material, due to its lightweight and zero water-absorption. Moreover, the sandwich construction avoids the use of internal stiffeners, increasing the usable internal space and offers a natural insulation capability, improving the comfort in the cabin and manned compartments.

FENDER:

The fender is constructed in EPDM Rubber. The solid construction of the fender ensures the safety of the vessel and its crew. The fendering is reinforced at the bow to allow for pushing operations. The fender along deck line is made large to increase the safety of the vessel. The fender system absorbs impacts and retains integrity and shape.

DECK:

Handrails placed around the railing to allow safe passage around the vessel.
 6 mooring bites.
 Worklights for both fore- and aft-deck

CABIN & COCKPIT:

Toilet with WC and washbasin.
 A pantry with washbasin inside the cabin.
 A bench is placed in the aft of the cabin and 2 pilot seats in the front for helmsman and crew.
 1 hinged door in the starboard side of the cabin.
 Defroster system for windows with hot air blowers.
 All windows are glued into the structure.
 Led lights in cabin and cockpit.
 Comfort insulation in the cabin.

TECHNICAL:

ENGINES, PROPULSION, STEERING etc.

1 x Inboard diesel engine
 1x Bow and 1x stern thruster
 2 x 600L Fuel Tank

TANKS:

Structural diesel tank with hatch and filling protection.
 Independent fresh water tank.
 Independent black water tank with odourless filter.

ELECTRICAL SYSTEM & LIGHTING:

All electrical wiring in marine cable.
 Shore power with control lamp, marked fuses, earth connection.
 Isolation transformer with earth plate for protection of galvanic corrosion.
 24-volt electrical system.
 Main switches with separate battery systems for start and consumption.
 Battery charger with indicator.
 Navigational lights.
 Deck lights.

NAVIGATION & ELECTRONIC EQUIPMENT:

Complete engine instruments supplied by engine manufacturer.
 Control panel for all lighting and other electrical equipment.
 1 x magnetic compass
 1 x 12" Multi-function displays
 1 x Echo transducer
 1 x VHF/AIS

SECURITY EQUIPMENT:

Bilge pumps
 Fire extinguisher at doorway into cabin
 Automatic fire extinguisher system in engine room.

PRO:ZERO



THE BEST TEAM

Expert team

Modern boat building requires more than the expert skill of a single artisan. To build boats that accommodate the demands of today's maritime infrastructure, it requires innovative thinking and careful coordination of a long range of complementary skills. That is why the team at Tuco Marine is represented by everything from traditional craftsmen to 3D animators and marine engineers, who work together to create the synergy and momentum that is essential for the company to succeed. The sense of mutual commitment and shared accountability amongst the members of our team is exactly what keeps Tuco Marine at the vanguard of maritime commerce and technology. Thus, the team at Tuco Marine is not just a collection of individual people, but a collective working toward a common goal and sharing the rewards.

PRO:ZERO

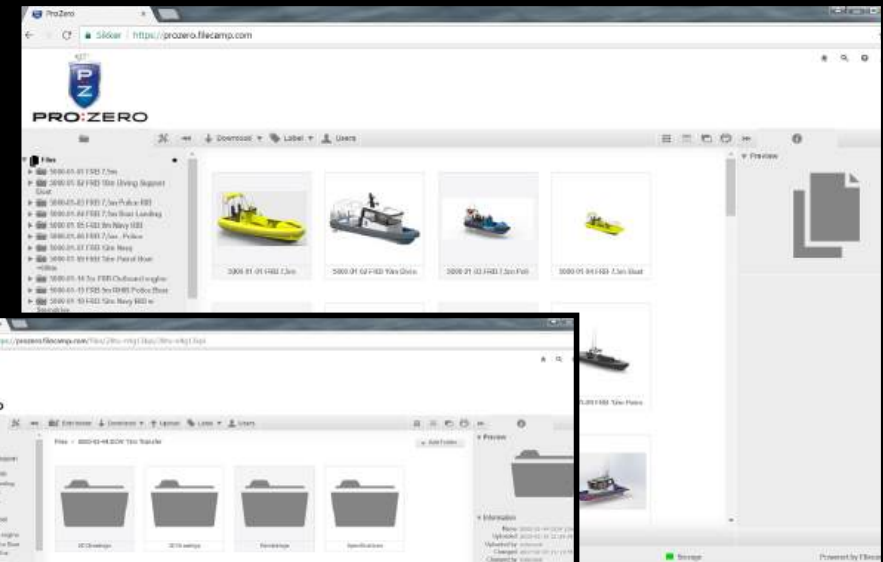
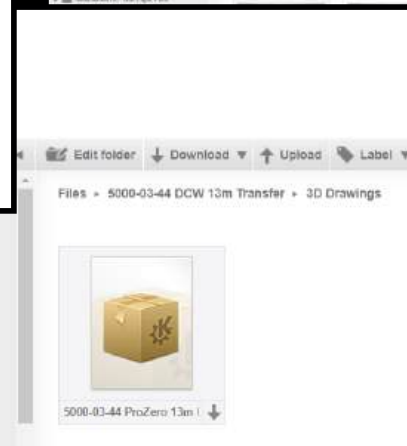
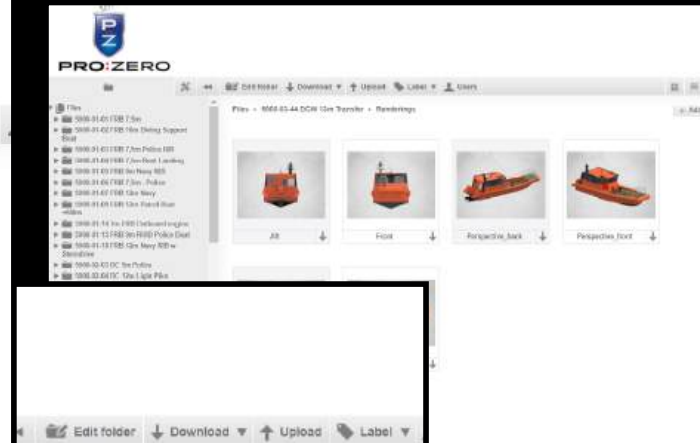
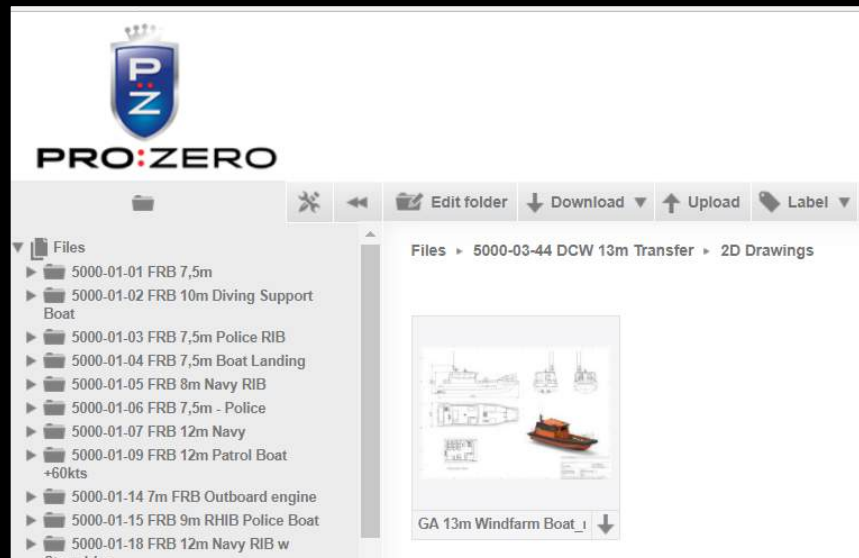


ACCESS TO DRAWINGS AND 3D FILES

Easy decisions – exploit our design library and save time

As a service for naval architects and users, Tuco has launched a design library containing drawings and renderings for our range of ProZero vessels. The Filecamp library provides an efficient and convenient way for naval architects to access the ProZero designs. The comprehensive Filecamp data can support and facilitate planning, eliminate superfluous procedures and help in reaching informed design choices.

PRO:ZERO



FILECAMP

EASY INTEGRATION

REFERENCES



*To the above comes a large number of businesses within Renewable Energy and Offshore that are covered by Non-Disclosure agreements



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